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GOVERNMENT OF NORTHERN IRELAND
MINISTRY OF AGRICULTURE

MONTHLY REPORT

JUNE, 1938



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GOVERNMENT OF NORTHERN IRELAND
MINISTRY OF AGRICULTURE

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CONTENTS

	PAGE
AGRICULTURAL CONDITIONS:—	
THE CROPS, SUPPLIES AND PRICES	81
LIVE STOCK	83
THE COST OF LIVING INDEX FIGURE	84
THE MARKETS DURING MAY	84
TABLE OF EGG PRICES	85
ARTICLES:—	
Creamery Milk Supplies	86
The Management of Grassland	93
Wheat Act, 1932	97
MARKETING SCHEMES:—	
Agricultural Marketing (Pig Industry) Act, (N.I.), 1934:—	
PIG PRICES FOR JUNE, 1938	100
GRADING STATISTICS	102
COST OF STANDARD PIG RATION	103
The Cattle Industry (Emergency Provisions) Acts, 1934 and 1935, and The Livestock Industry Act, 1937	
	104
Wheat Act, 1932:—	
ADVANCE PAYMENT TO REGISTERED GROWERS, 1937/38	105

MINISTRY OF AGRICULTURE

MONTHLY REPORT

JUNE, 1938.

The agricultural outlook is much more promising than at the beginning of last month. Three weeks' rain in May refreshed the pastures and tillage land. Sowing is almost complete and there is no reason to suppose that yields will be below normal. Out-feeding for cattle is now plentiful as a result of the rain, and the condition of livestock generally is much improved. Trade in livestock, however, shows little improvement, and business remains dull as buyers are only filling immediate requirements.

This month's issue contains several informative articles. One on the supplies of milk to creameries shows, among other things, that prices for milk sold to creameries were higher in 1937-38 than in 1936-37, that the supplies of Grade C milk to creameries have gone up steadily since the Milk and Milk Products Act was introduced in 1934, and that between 1934-35 and 1937-38 no less than £434,000 was paid to creameries in respect of equalisation payments. An article on the Wheat Act, 1932, shows the variations of the acreage under wheat since the Act was introduced, and how individual counties have benefited from the Wheat Subsidy.

"The Management of Grassland during Summer"—a wireless talk given by Mr. J. Morrison, on 23rd May—is another article appearing in this issue. The writer suggests "some methods of grassland management which would result in a marked improvement in the quality and output of our grassland."

AGRICULTURAL CONDITIONS.

AGRICULTURAL CONDITIONS AT 1st JUNE, 1938.

Tillage and pasture land this month is in a very good condition generally. The severe drought that began early in April continued up to the second week of May. Then followed some very heavy showers, with intermittent sunny spells, until the end of the month, and the rain had a very stimulating effect on crops and pasture lands that had suffered severe setbacks during the previous weeks. Unlike the drought period, the last three weeks of May were remarkable for the lack of extremes of temperatures, and no frosts were recorded. Day temperatures were generally lower than in April, but there was no extreme cold in the evenings and at night. The heavy frosts of the first nine or ten days of the month did much damage to root crops, and checked growth, but the subsequent rain softened the ground and rendered cultivation much easier. At the same time the unsettled weather was not sufficiently severe to interfere with outdoor work which had been considerably advanced during the dry weather.

Generally speaking, the weather conditions of the last three weeks of May were unsettled enough to effect a general improvement on crops and pastures, but were not enough seriously to hamper outdoor work.

Soil conditions at the beginning of the month were very poor, and the ground was hard and in places almost unbreakable. As a result of the rain, however, top soil has been well broken up and work is progressing easily and favourably. The sowing of flax and grass seed, and the planting of main crop potatoes, were most hindered by the rain, but seasonal work is now well in hand, and the sowing and planting operations, with the exception of turnip sowing, were almost completed by the 1st June. Early sowings of turnips, marrow-stem kale, and mangels were also completed before the end of the month.

Pasture land, especially that manured in early winter, has shown great improvement since the rain arrived. A great deal of lime has been used during the past month not only on pasture but also on tillage land, but the scarcity of good British made basic slag has resulted in only a slight use of

this fertiliser. In most areas there are still fairly large stocks of home-grown fodder on hands. These will be sufficient for the remainder of the season, and there will probably be a surplus of hay left over for next year. Plentiful supplies of purchased feeding stuffs are easily obtainable at prices that remain fairly steady, any changes being in the buyer's favour. Very little hand-feeding is being done at the moment.

Although cattle and sheep suffered severely during the drought, they are now recovering in condition following the improvement in the pastures. Grass-fed beef will be much later than usual in coming forward for sale, and it seems probable that markets in the near future will be rather short of supplies. During May the numbers of beef cattle at fairs were smaller than in April, and it seems that supplies will continue rather under normal.

THE CROPS.

WHEAT.—Threshings of wheat were almost completed by the end of May, and a very good crop resulted in most areas. In some places, however, late sowings were attacked by Leather Jacket Grubs, but no serious loss of crops was recorded. It seems likely that there will be a greater area under wheat than last year.

OATS.—As stated before, it is probable that on account of the Subsidy Scheme there will be a greater acreage under oats this year than in 1937. The brairds have shown great improvement since the rain. Attacks of Leather Jacket Grub, which were prevalent during the drought, have become less noticeable, and very few complaints have been registered lately. In a few backward areas it has been reported that brairds are thin, and that an uneven crop may result. Oats on potato ground have not advanced so quickly as lea oats, and the thinness of the brairds may lead to uneven ripening. Steadily decreasing quantities of oats were sold at the markets during last month, and average prices were 1d. cheaper at 7/6½d. per cwt. Supplies of oat straw also fell steadily, and prices were again easier at 41/- per ton.

BARLEY.—It is considered that the area of barley sown this year is rather more than last year. Growth is in a fairly satisfactory state, but in many fields yellowing had set in at the end of April and beginning of May owing to the night frosts. These fields, however, show some recovery, and the brairds are in a fairly promising state.

FLAX.—Reports vary considerably, but it seems general that there will be a slightly smaller area under flax this year than last year. Many brairds are uneven and weedy because of the lack of rain in the early stages, but some seed that had remained dormant recovered with the rain, and a second braird is coming up.

POTATOES.—The surplus crop of potatoes has been cleared to a great extent during the past month. Owing to the anticipated shortage the feeding of potatoes to stock was interrupted by the rise in price, and the bulk of the crop remaining on hands was marketed. Only small stocks are on hand now for disposal. Conflicting reports have been received as to the 1938 crop, but it seems that there will be very little change in the probable extent of the crop. Large supplies of potatoes were offered at local markets last month, and demand was very keen. Prices were considerably advanced, and reached the highest levels for some time past. The average price for all classes of the Main Crop for May was $3/10\frac{1}{2}$ d. per cwt. as compared with $2/7\frac{1}{2}$ d. in April, and $5/4\frac{1}{2}$ d. in May, 1937. Weekly purchases by shipping merchants last month also showed considerable fluctuation, and prices advanced. The following were the prices for the week ended 28th May :—

			Bagged per ton	Loose per ton
Up-to-Date (Red Soil)	..	..	£3-10-0 to £4-0-0	£3-5-0 to £3-10-0
Arran Banner	..	..	£3-0-0 to £3-10-0	£3-0-0 to £3-5-0
Arran Consul	..	..	£3-5-0 to £3-10-0	£3-5-0
Arran Victory	..	..	£3-0-0 to £3-10-0	£3-0-0
Kerr's Pink	..	..	£3-10-0 to £4-0-0	£3-5-0 to £3-10-0

The records of weekly shipments are contrasted with those of a year ago in the following table :—

Week ended			Tons	Week ended			Tons
28th May, 1938	..	..	3,698	29th May, 1937	..		4,924
21st " "	..	..	5,715	22nd " "	..		4,979
14th " "	..	..	6,940	15th " "	..		3,669
7th " "	..	..	8,612	8th " "	..		5,029
30th April, "	..	..	6,584	1st " "	..		4,559
23rd " "	..	..	3,739	24th April, "	..		5,482

TURNIPS.—The sowing of turnips is practically complete, the rain having softened the soil sufficiently to ease the work considerably. Some of the early sowings that were impeded by the drought are now showing a fairly strong braird, and are making good growth.

MANGELS.—The sowing of mangels is also completed, except in a few backward areas. A few cases have occurred of no germination in the early sowings, and this land has had to be re-sown. At the moment the crop is in a very promising condition and brairding well.

HAY.—The new season's hay crop suffered very much from the drought and growth was very backward. The crop, however, has recovered to a large extent with the rain, but the yields will probably be light this year. Rain came too late for the first crop of hay, and despite the improvement it

will cut light and short. The rains came more favourably for Meadow Hay, and although this crop was very backward, with good growing, a fairly good yield may result. Generally speaking, the crop will probably be very light. Supplies marketed during May recorded a further seasonal decline, and although first and second year's Upland hay rose in price by 2/10d. to 62/6d. per ton, Meadow hay cheapened by 6d. to 48/7d. per ton.

LIVE STOCK.

CATTLE.—Store cattle are generally in good condition and health despite the setback suffered from the drought. Up to the first week in May outliers were seriously affected by the bareness of pastures, but these are showing some recovery. Hand-fed cattle are showing remarkable improvement in condition. Small supplies of store cattle were forward at the fairs during May. The prices demanded were too high, and only the best were cleared. There is still a certain uneasiness as to the effect of the Anglo-Eire Trade Agreement. Dairy stock have also improved in condition and health. A few cases of abortion and sterility have been recorded. Milk yields are well up to average. Trade for the improved supplies of dairy cattle at fairs was fairly good at prices that tended to weaken slightly during the month.

SHEEP.—Lambing has been completed and the crop this year is about the same as last year. More singles were reported in a few districts, but to offset these, losses were less frequent. Small to medium supplies of sheep and lambs were marketed, but trade was not very good except at Belfast. Prices for this year's fat crossbred lambs were not so good as last year, but other classes were sold at somewhat similar price levels to last year.

Prices for long unwashed wool during the month ranged from 5d. to 8½d. per lb., and for mountain from 4d. to 7½d.

PIGS.—Larger supplies of young pigs were marketed in May. Demand remained keen but prices fell from the high levels that have prevailed recently, the general price range being from 28/- to 40/- according to quality and condition. Small numbers of sows for breeding were usually in good request, and prices were a little firmer. The general range was from £6 10s. to £12 per head. There was a good steady trade for dead pigs for the roll and ham cure.

HORSES.—Horses are still in fair demand, although only small numbers were forward. Best types of young farm horses fetched from £30 to £45, with heavy workers from £20 to £30.

MILK.—The milk yields improved during the last fortnight of the month. The drought had the effect of reducing supplies, but the advent of rain has resulted in much better yields, and creameries were well supplied. The rates

paid by creameries for milk delivered during April varied from 4d. to 5½d. per gallon, the separated milk being returned to the farmer. As the average price for milk produced in Northern Ireland, and delivered to creameries for manufacturing purposes during April, 1938, exceeded the standard price as provided by the Milk and Milk Products Acts (Northern Ireland) 1934 to 1937, no equalisation payments were made in respect of that month.

THE COST OF LIVING INDEX FIGURE.

The cost of maintaining unchanged the pre-War standard of living of working-class families at April 30th, was approximately 56 per cent. above the level of July, 1914, as compared with 54 per cent. at April 1st, and 52 per cent. at May 1st, 1937.

The Ministry of Labour's general index of retail prices of food in Great Britain and Northern Ireland at April 30th was 39 per cent. above the level of July, 1914, or 2 points above that at April 1st, and 3 points higher than that ruling a year ago.

THE MARKETS DURING MAY.

With the exception of pamphrey, supplies of the principal vegetables at the markets during May were smaller as compared with the previous month, and savoy and garden turnips disappeared from the markets. Price movements generally had a firmer tendency. Pamphrey was again plentiful and unchanged in price at 11d. per dozen, and broccoli ¼d. cheaper at 1/9½d. per dozen, while leeks were firm at 5d. per bunch, and parsley 2½d. dearer at 7½d. per bunch. Carrots at 10/- per cwt., and parsnips at 9/- per cwt., were 4d. and 1/3d. respectively dearer on the month. Supplies of farmers' butter were heavier, both print and lump butter recording increases. Print butter was ¼d. cheaper at 1/3½d. per lb., while lump was firm at 1/2¼d. per lb.

Hen eggs were in shorter supply, and duck eggs were also scarcer than in April. Prices as fixed by the Ministry from week to week, having recorded an upward trend in April, maintained higher levels as shown in the table below. In the poultry section supplies of hens and chickens were larger as compared with the previous month, but ducks were less numerous. Hens at 1/10½d. each, and chickens at 2/10d. each were ½d. and 1d. cheaper respectively, but ducks at 2/5d. each were 2d. dearer on the month.

The prices per lb. live weight paid by wholesale merchants for hens and chickens also eased on the month, and ranged from 7d. to 1/- for spring chickens, and from 4d. to 6½d. for hens, but ducks were dearer at from 7d. to 8d., and ducklings fetched 7½d.

Small lots of unwashed wool were marketed in May. Long wool was 1½d. cheaper at 6½d. per lb., and mountain ½d. cheaper at 5½d. per lb.

MARKETING OF EGGS ACTS (N.I.)1924—1937.

WHOLESALE DEALERS' PRICES.

The following table shows the prices fixed by the Ministry, and payable by licensed wholesale dealers, for eggs purchased from producers during the following weeks, as compared with the average prices at markets for the corresponding weeks of 1937.

Week ended	1938				1937			
	Hen eggs per lb.*		Duck eggs per dozen*		Hen eggs per lb.		Duck eggs per dozen	
	s.	d.	s.	d.	s.	d.	s.	d.
May, 7th	0	7	0	10	0	5½	0	8½
„ 14th	0	7	0	10	0	5½	0	8½
„ 21st	0	7½	0	11	0	5½	0	8½
„ 28th	0	6¾	0	10½	0	5¾	0	8½
June, 4th	0	7	0	10	0	6	0	9

* Where hen eggs are delivered by the producer to the packing store of a licensed wholesale dealer of Class A an additional ½d. per lb. is payable; in the case of duck eggs an additional ¾d. is payable for each complete dozen so delivered.

Payment on a quality basis came into operation during the week ended 5th March, 1938.

The following were the standard deductions :—

Hen Eggs : “Seconds” and soiled eggs ½d. per egg, Rejects ¾d. per egg.

Duck Eggs : Rejects ¾d. per egg during the first two weeks in May, afterwards 1d. per egg.

CREAMERY MILK SUPPLIES.

Under the Milk and Milk Products Act (Northern Ireland), 1934, equalisation payments have been paid to all creamery suppliers since the 1st April, 1934, and additional bonus payments have been made since the 16th December, 1934, to producers supplying milk of Grade A, Grade B, or Grade C to creameries for manufacturing purposes. In 1936 the Act was amended so as to make the suppliers of prescribed undertakings also eligible for the award of equalisation payments from the 1st April, 1934, and bonus payments from the 16th December, 1934. It may now be of interest to review the position of the creameries and prescribed undertakings under the Acts during the four years' period ended on the 31st March, 1938.

In the following table are given the gallonages of milk delivered to creameries and prescribed undertakings for manufacturing purposes each month during the four years 1934-1935, 1935-1936, 1936-1937, and 1937-1938:—

Month	1934-1935	1935-1936	1936-1937	1937-1938
	Gallons	Gallons	Gallons	Gallons
April ..	805,332	1,222,022	1,480,684	1,190,143
May ..	1,465,535	2,440,988	2,590,722	2,348,129
June ..	2,616,290	3,253,384	3,715,046	3,373,475
July ..	2,752,354	3,607,191	4,028,679	3,473,975
August ..	2,696,407	3,255,977	3,467,566	3,110,874
September ..	2,130,802	2,729,203	3,014,723	2,747,016
October ..	1,879,637	2,240,371	2,540,532	2,225,877
November ..	1,243,755	1,531,638	1,478,766	1,531,425
December ..	895,737	1,140,401	962,790	979,770
January ..	752,527	1,005,702	795,697	835,978
February ..	658,487	899,894	713,311	711,970
March ..	864,602	1,106,094	884,779	862,602
Total ..	18,761,465	24,432,865	25,673,295	23,391,234
No. of creameries and prescribed undertakings	108	110	106	106

It will be noted that the quantity of milk supplied to the creameries and prescribed undertakings in the corresponding months of each of the four years showed a steady increase until the end of October, 1936, when a downward trend set in which continued for the remainder of the 1936-1937 season and practically the whole of the 1937-1938 season.

The position as regards supplies in 1935-1936, 1936-1937, and 1937-1938, as compared with 1934-1935, will be more easily appreciated from the following percentage figures :—

Period	Increase in supply as compared with 1934-1935.		
	1935-1936	1936-1937	1937-1938
Summer Months (April-September)	% 32.42	% 46.77	% 30.30
Winter Months (October-March)	25.88	17.18	13.55
Full Year	30.23	36.84	24.68

The seasonality of supply is indicated in the following table, in which the monthly gallonages are expressed as percentages of the total supply for the year :—

Month	1934/35	1935/36	1936/37	1937/38
	%	%	%	%
April ..	4.3	5.0	5.8	5.09
May ..	7.8	10.0	10.1	10.04
June ..	13.9	13.3	14.5	14.42
July ..	14.7	14.7	15.7	14.85
August ..	14.4	13.3	13.5	13.30
September ..	11.4	11.2	11.7	11.74
October ..	10.0	9.2	9.9	9.52
November ..	6.6	6.3	5.8	6.55
December ..	4.8	4.7	3.7	4.19
January ..	4.0	4.1	3.1	3.57
February ..	3.5	3.7	2.8	3.04
March ..	4.6	4.5	3.4	3.69
Total ..	100.0	100.0	100.0	100.0

It will be observed that in each year the supply rose steadily from April to July, then declined until February and increased again in March. Speaking generally, about two-thirds of the supply was delivered in the summer period, April-September, and one-third in the winter period, October-March :—

Period	1934/35	1935/36	1936/37	1937/38	1934/38
	%	%	%	%	%
April-September	66.5	67.5	71.3	69.44	68.8
October-March	33.5	32.5	28.7	30.56	31.2
Total	100.0	100.0	100.0	100.0	100.0

In the following table are given the numbers of farmers supplying milk to creameries and prescribed undertakings, and the average gallonage delivered each month during the period 1st April, 1934, to 31st March, 1938 :—

Month	Number of Suppliers.				Average Gallonage.			
	1934/35	1935/36	1936/37	1937/38	1934/35	1935/36	1936/37	1937/38
April	11,420	14,626	16,818	15,679	71	84	88	76
May	13,736	18,152	19,799	18,718	107	134	131	125
June	16,936	21,334	22,253	21,056	154	152	167	160
July	18,642	21,618	22,987	21,678	148	167	175	160
August	18,566	21,571	22,976	21,461	145	151	151	145
September	17,394	21,260	22,704	21,573	123	128	133	127
October	17,745	21,081	22,317	21,017	106	106	113	106
November	16,943	20,117	20,836	19,995	73	76	71	77
December	15,481	18,382	18,035	17,642	58	62	53	56
January	15,266	17,108	15,943	15,421	49	59	50	54
February	13,652	15,765	14,628	14,200	48	57	49	50
March	13,620	15,719	14,627	13,952	63	70	60	62
Average for Month	15,783	18,895	19,493	18,533	99	108	110	100

It will be noticed that the number of suppliers was greatest in July, 1936, and that after November, 1936, there was more than the ordinary seasonal falling off in the numbers of suppliers as compared with the figures for the corresponding months in previous years. The average gallonage delivered each month by each supplier also showed a marked decrease during the twelve months, November, 1936 - October, 1937.

The following two tables show the number of suppliers and the average gallonage delivered per supplier to creameries and prescribed undertakings in each county during each month of the year ended 31st March, 1938, together with average figures for the years 1935-36 and 1936-37 :—

NUMBER OF SUPPLIERS.

Month	Antrim	Armagh	Down	Fermanagh	London-derry	Tyrone	Belfast Co. Boro	Total
April, 1937	2,369	964	405	5,032	872	5,636	401	15,679
May	2,742	1,283	544	5,617	1,137	6,967	428	18,718
June	3,017	1,614	653	5,969	1,412	8,016	375	21,056
July	3,090	1,700	665	6,079	1,460	8,324	360	21,678
August	3,056	1,717	628	6,019	1,440	8,279	322	21,461
September	3,051	1,872	608	5,985	1,460	8,282	315	21,573
October	2,989	1,674	579	5,924	1,402	8,113	336	21,017
November	2,890	1,576	516	5,688	1,277	7,755	293	19,995
December	2,655	1,311	431	5,160	1,058	6,734	293	17,642
January, 1938	2,432	1,072	373	4,596	841	5,813	294	15,421
February	2,295	917	350	4,289	821	5,243	285	14,200
March	2,305	850	358	4,269	788	5,059	323	13,952
Average for 1937/38	2,741	1,379	509	5,386	1,164	7,018	336	18,533
Average for 1936/37	2,705	1,526	679	5,719	1,191	7,367	306	19,493
Average for 1935/36	2,695	1,334	438	5,849	1,118	7,208	253	18,895

It will be observed that except in County Antrim and Belfast County Borough, there was a decrease in the number of suppliers in every county in 1937-38 as compared with the previous year.

AVERAGE GALLONAGE DELIVERED PER SUPPLIER.

Month	Antrim	Armagh	Down	Fermanagh	London-derry	Tyrone	Belfast Co. Boro	Northern Ireland
April, 1937	108	59	78	62	80	70	168	76
May	159	99	130	114	136	118	228	125
June	195	127	153	155	168	152	263	160
July	192	132	150	154	164	156	234	160
August	179	122	135	135	147	141	249	145
September	166	100	120	118	131	121	254	127
October	145	88	98	96	104	97	249	106
November	115	64	74	63	76	69	236	77
December	94	46	58	40	54	47	211	56
January, 1938	90	44	61	36	48	48	219	54
February	84	41	59	32	44	43	209	50
March	99	48	74	41	62	53	228	62
Average for 1937/38	135	81	99	87	101	93	229	100
Average for 1936/37	140	92	115	101	113	103	245	110
Average for 1935/36	131	89	104	103	106	102	218	108

The following table shows the average prices paid by creameries each month during the period 1st April, 1933, to 31st March, 1938, and also the amount of equalisation payment per gallon paid since the 1st April, 1934 :—

Month	Average price per gallon.					Amount of Equalisation Payment per gallon.			
	1933/34	1934/35	1935/36	1936/37	1937/38	1934/35	1935/36	1936/37	1937/38
April	d.	d.	d.	d.	d.	d.	d.	d.	d.
April ..	3.79	3.7	3.61	4.19	5.09	1.3	1.39	.81	.00
May ..	3.26	3.3	3.18	3.80	4.52	1.7	1.82	1.20	.48
June ..	3.11	3.0	3.11	3.96	4.30	2.0	1.89	1.04	.70
July ..	3.08	2.8	3.34	4.20	4.44	2.2	1.66	.80	.56
August ..	3.23	2.9	3.70	4.41	4.64	2.1	1.30	.59	.36
September ..	3.72	2.92	4.29	4.42	4.90	2.08	.71	.58	.10
October ..	3.99	3.01	4.86	4.36	5.79	2.99	1.14	1.64	.21
November ..	4.20	3.34	4.86	4.94	*6.34	2.66	1.14	1.06	*.16
December ..	4.37	3.68	5.29	5.32	6.64	2.32	.71	.68	.00
January ..	4.40	3.95	5.08	5.29	6.31	2.05	.92	.71	.19
February ..	4.35	4.06	5.15	5.43	6.25	1.94	.85	.57	.25
March ..	4.19	4.12	4.87	5.39	5.96	1.88	1.13	.61	.54
Average for year ..	3.56	3.18	3.99	4.38	5.12	2.15	1.33	.90	.35

*For the period 1st - 9th November, 1937, no equalisation payments were made, but for the period 10th - 30th November, when the basic average price was raised by $\frac{1}{2}$ d. to $6\frac{1}{2}$ d. per gallon, the rate of equalisation payment was determined at 0.16d. per gallon in accordance with the Milk and Milk Products Acts (Northern Ireland), 1934 to 1937.

The total average amounts paid to suppliers in each of the four years under review were 5.33d., 5.32d., 5.28d., and 5.47d. respectively. It will be noted that the prices paid in 1937-38 were very much better than in 1936-37, due mainly to improved prices for butter and to increased sales and prices of cream.

The numbers of gallons of each grade of milk supplied to creameries and prescribed undertakings for manufacturing purposes from 1st April, 1937, to 31st March, 1938, were as follows:—

Month	Grade A.	Grade B.	Grade C.	Grade D.	Total
	Gallons	Gallons	Gallons	Gallons	Gallons
April, 1937	1,529	9,631	550,437	628,546	1,190,143
May	2,868	24,380	964,183	1,356,698	2,348,129
June	2,776	23,208	1,250,787	2,096,704	3,373,475
July	1,270	14,195	1,254,761	2,203,749	3,473,975
August	1,763	10,339	1,133,233	1,965,539	3,110,874
September	1,489	11,885	1,022,998	1,710,644	2,747,016
October	580	11,852	845,452	1,367,993	2,225,877
November	98	5,691	601,767	923,869	1,531,425
December	332	4,453	427,500	547,485	979,770
January, 1938	230	4,677	376,452	454,619	835,978
February	336	5,286	355,986	350,362	711,970
March	1,034	9,877	465,190	386,501	862,602
Total for year 1937/38	14,305	135,474	9,248,746	13,992,709	23,391,234
Total for year 1936/37	13,352	141,118	8,627,510	16,891,315	25,673,295
Total for year 1935/36	4,507	101,233	5,610,065	18,717,060	24,432,865

The monthly gallonages, by grades, are shown in the following table as percentages of the total supply :—

Month	Grade A.	Grade B.	Grade C.	Grade D.	Total
	%	%	%	%	%
April, 1937	0.129	0.810	46.249	52.812	100
May	0.122	1.038	41.062	57.778	100
June	0.082	0.688	37.077	62.153	100
July	0.037	0.409	36.119	63.435	100
August	0.057	0.333	36.428	63.182	100
September	0.054	0.433	37.240	62.273	100
October	0.026	0.533	37.983	61.458	100
November	0.006	0.372	39.294	60.328	100
December	0.034	0.455	43.632	55.879	100
January, 1938	0.028	0.560	45.031	54.381	100
February	0.047	0.743	50.000	49.210	100
March	0.120	1.145	53.929	44.806	100
Average for year 1937/38	0.062	0.580	39.539	59.819	100
Average for year 1936/37	0.052	0.550	33.605	65.793	100
Average for year 1935/36	0.019	0.414	22.961	76.606	100

At the commencement of the scheme the number of licensed producers supplying milk to creameries and prescribed undertakings was about 900; this number had increased to 5,071 at the end of March, 1938. The most interesting feature of this table is the rapid increase which has taken place in the proportion of Grade C milk, which represented almost 40 per cent. of the total supply in 1937-38, and in February and March, 1938, actually exceeded the quantity of Grade D milk delivered.

Suppliers of Grade A or Grade B milk to a creamery or prescribed undertaking for manufacturing purposes receive a bonus payment of 2d. per gallon, while in the case of Grade C the bonus payment until the 9th November, 1937, was 1d. per gallon. Under the Milk and Milk Products Act (Northern Ireland) 1937, however, suppliers of Grade C milk have been entitled to an additional penny per gallon since the 10th November, 1937.

Equalisation payments are made to the creameries and prescribed undertakings on a gallonage basis, but are distributed among the suppliers according to the butter-fat content of the milk delivered by them. The separated milk is, as a rule, returned to the suppliers and utilised for the feeding of calves, pigs, and poultry.

The total amounts paid to suppliers of creameries and prescribed undertakings in respect of the four years 1934-35, 1935-36, 1936-37 and 1937-38, were approximately as follows :—

	1934/35	1935/36	1936/37	1937/38
	£	£	£	£
Paid by creameries and prescribed undertakings	256,548	413,415	476,420	499,434
Paid by Ministry :—				
(a) Equalisation Payments ..	168,105	135,378	96,199	34,405
(b) Bonus Payments ..	1,501	24,256	37,235	48,230
Totals	426,154	573,049	609,854	582,069

It is evident from the foregoing figures, certain of which are still subject to minor correction, that the Milk and Milk Products Acts have been of undoubted benefit to the creameries and prescribed undertakings, and have been instrumental in effecting a marked improvement in the quality of the milk delivered.

THE MANAGEMENT OF GRASSLAND DURING SUMMER.

By Mr. J. MORRISON, Agricultural Research Institute, Hillsboro'

(A wireless talk delivered from the Northern Ireland Station, on 23rd May).

For many years past the improvement of grassland has received considerable attention. The first real step in grassland improvement in this country was taken about 40 years ago when basic slag was discovered to be a valuable phosphatic fertiliser, and many of our old pastures have been improved out of all recognition by the application of slag.

The discovery was made some time later that Wild White Clover was a valuable pasture plant, and its use in seeds mixtures improved still further much of our grassland, particularly temporary pastures. Then within the last few years another aspect of grassland improvement, namely management, has been receiving attention, and recent work has demonstrated clearly that management is equally as important as proper seeding and manuring in improving the quality and increasing the stock-carrying capacity of grassland.

While I admit that many of our pastures show a marked improvement as a result of suitable manuring and the use of suitable seeds mixtures, I do not think many farmers will question the fact that many of our fields of pasture are still very poor, both in quality and in stock-carrying capacity. Undoubtedly this is due in part to soil poverty, but I am convinced that it is in great measure due to mismanagement. The deterioration in the quality and productiveness of much of our grassland is due to the prevalence of the opinion held by many farmers that grassland does not require much attention. The tendency has been to regard grass not as a crop, but rather as a natural product which is capable of looking after itself. Special attention is paid to the seeding, manuring and management of such crops as potatoes, roots and oats, and while the majority of farmers sow a good mixture of grasses and clovers when laying their land down to grass, they often pay little or no attention to the manuring and management of the grass in subsequent years. Grass is a crop, and as such it should be given the treatment which is regarded as necessary to ensure the successful production of any farm crop.

The operation of the Land Fertility Scheme has given a fresh stimulus to the question of grassland improvement. During the past winter and spring many of you, in addition to mechanical treatment, have applied phosphates and lime to your pastures. This will undoubtedly improve the quality of the pasture and increase its stock-carrying capacity, but the good effects of these measures will be nullified to a great extent unless you pay due attention to the management of your grass during the summer.

I fully realise that it is very difficult—sometimes even impossible—under practical conditions on the farm to carry out the various field operations just at the right time, and that the question of the management of grassland has to be considered in conjunction with other farming activities. The present condition of much of our grassland, however, is evidence of the fact that it receives far too little attention, particularly during the summer months.

I propose in this talk to discuss briefly some methods of management which could be put into general practice without unduly upsetting the ordinary routine work of the farm, and which, without question, would result in a marked improvement in the quality and output of our grassland. One of the problems which confronts the farmer each year is how to cope with the surplus grass during the flush period. In an average year the period of maximum growth of grass in Northern Ireland extends from about the middle of May to the end of June, and often into July, and, during that period, practically every farmer finds that his available stock are unable to keep the grass in check. In other words, his fields are understocked, and much of the grass is allowed to grow unchecked and will shoot and seed. This leads to reduced soil fertility, and herbage of lower feeding value. Again, where grazing land is understocked the animals tend to select and graze closely the better and more palatable plants, leaving ungrazed the poorer herbage. This results in the pasture becoming very uneven, with the development of tufts of coarse grass which will gradually accumulate, and in time will form a mat on the surface.

A pasture will also become uneven and will develop coarse tufts if it is grazed continuously by certain classes of stock. Sheep and horses are very selective in grazing. Sheep particularly are very close grazers, and will select and graze the finer and more delicate plants, neglecting altogether the rougher and poorer plants. Consequently land grazed too long by sheep will become very rough and patchy. On the other hand cattle are not so selective in grazing, nor do they graze so closely, and dairy cows and store cattle will graze a field more evenly than any other class of stock. Grassland, therefore, which is understocked or left to the uncontrolled action of grazing animals, will rapidly deteriorate, and undoubtedly one of the best methods of maintaining grassland in good condition is to keep it well grazed with mixed stock.

If it is found that the available stock is not sufficient to keep the grass well grazed, a field could, with advantage, be reserved for hay, or alternatively grass silage could be made. Small silos, which can be erected anywhere on the farm, are now available, and, if the grass is cut early and molasses or treacle added to it during ensiling, a very useful and valuable food will be available for stock during the winter.

Even if a grazing field is well stocked some of the grasses will tend to run to seed, and tufts of coarse grass will frequently develop, particularly in the vicinity of manure droppings. In such cases the mowing machine should be run over the field, and by topping and trimming the pasture, seeding of grasses and weeds will be prevented and coarse patches will be cut off. The mowing machine is one of the most useful implements for maintaining grass-land in good condition, and it should be used regularly, in conjunction with the stock on the farm, to control grazing during the summer.

I am aware that a fear of a shortage of grass later in the season deters many farmers from topping their pastures with the mower, but with our climatic conditions there is seldom a real shortage of grass in late summer and autumn. At any rate close cutting is not essential, and the cutting bar of the mower should be raised so that plenty of grazing is left. Again, some farmers argue that attention to other farm operations leaves very little time for mowing over the pastures, and for gathering and carting off the cut material. I have no doubt whatever that if they realised the improvement in the quality of the subsequent grazing that is brought about by topping, time would be found to carry out the work. The further difficulty of gathering and carting off the cut material could be overcome to a great extent, and could even be eliminated, by topping the pasture early in the season—say about the end of June or the beginning of July. This would leave plenty of time for subsequent growth of younger and more nutritious grass, and mowing at that time would also check the growth of rushes if such were present. If, however, a field is badly infested with rushes it will be necessary to lower the cutting bar of the mower and to cut the rushes close to the ground.

Although I have advocated close grazing by mixed stock I do not suggest that this should necessarily be practised throughout the whole season. It would be a mistake, for example, to graze temporary pasture too hard in early spring, as this would tend to suppress some of the grasses which are necessary and valuable for an early bite. Again, too hard grazing in autumn will tend to restrict root development of the herbage before winter, and will result in slower growth the following spring. If you want early grass in a particular field the best plan is to rest the field in late autumn after it has been well grazed during the summer. Periods of rest are desirable, and indeed essential, to permit the grasses and clovers to recuperate. The most productive pastures during the summer months are those in which close grazing is followed by a suitable period of rest.

It is a common practice in some districts to reserve some pasture for winter grazing, and many farmers graze the area intended for that purpose very lightly during the summer. This is not a good practice in the case of a field of temporary pasture, as the grasses will run to seed, and the pasture

will become coarse and will rapidly deteriorate in quality. It would be better to select some older permanent pasture for wintering stock, as in such pasture the grasses and clovers are established, and can withstand hard treading and grazing much better during winter than temporary pasture. This permanent pasture should, however, be grazed bare once during the summer, after which it can be rested and reserved for winter stocking.

I will now deal briefly with the management of grassland for hay. In Northern Ireland, when land is being laid down to grass, provision is made when the mixture of grass and clover seeds is being selected, for one or more hay crops, and while grass is the ultimate aim, considerable importance is attached to the production of a good crop of hay, at least the first year. In some districts the saving of ryegrass seed, chiefly Perennial Ryegrass, is largely practised, and since the crop must be left uncut until the seed is ripe, the late cutting of the hay has undoubtedly an adverse effect on the subsequent pasture. On the other hand, where seed-sowing is not practised there is no necessity to allow the hay to ripen, and although weather conditions, particularly in May and early June, will determine to a great extent the time at which the hay is cut, it is of the utmost importance that cutting should commence early. If cutting is delayed long after the flowering stage not only will the hay be of poorer quality and more indigestible, but the aftermath will be poorer. Moreover, the pasture in subsequent years will be poorer, since the bulky top grasses and clovers will have checked the growth and development of those bottom plants which are essential for the making of a good pasture. If more than one crop of hay has to be taken it increases still further the necessity for early cutting, and makes the application of suitable phosphatic manures essential if the quality and productiveness of the pasture which follows are to be satisfactory. It must be admitted, of course, that if the hay crop is cut early the yield will be reduced, but the superior quality of the hay and of the pasture in subsequent years will more than compensate for this reduction in yield.

Just a word about meadows. Meadow hay is usually cut about a month later than seeds hay, and here again cutting should not be delayed too long. The management of the aftermath is a very important factor in maintaining good quality in meadow hay. By mowing hay year after year from the same land many of the valuable bottom grasses and clovers disappear, and their place is taken by poorer herbage, which gradually accumulates and forms a mat on the surface. The best way to obviate this is to manure and cultivate properly. One of the best forms of cultivation is hard treading by stock, and the aftermath should be well grazed while it is fresh and nutritious. In addition to manures such as phosphates, potash and farmyard manure, at least one ton of lime should be applied to meadow land about every fourth autumn. When a meadow has deteriorated under continuous mowing for hay, great

improvement can be brought about by grazing it for a year. This will give opportunity for proper manuring and management, and the treading by farm stock will help to destroy any matted turf which is present.

Good grass is one of the most valuable assets, not only to the individual farmer, but to the county as a whole. In Northern Ireland, where the production of livestock is such an important and valuable branch of the agricultural industry, good grass must be the foundation on which development both as regards stock population and quality of animals is built. Climatic conditions prevailing here are favourable to the production of good grass and of good stock, and, therefore, it is up to all of us engaged in farming to obtain the full benefits by treating and managing our grassland properly.

WHEAT ACT, 1932.

In this article the working of the Wheat Act, 1932, during the past five years so far as wheat growers in Northern Ireland are concerned is reviewed.

Under the Act of 1932 the maximum quantity of home-grown millable wheat on which the full rate of deficiency payment could be made was fixed at 27,000,000 cwt. In recent years the quantity of home-grown millable wheat sold by growers has exceeded this quantity, resulting in a proportionate reduction in the amount of deficiency payment. This provision was amended by the Agriculture Act, 1937, so as to increase to 36,000,000 cwt. the quantity of home-grown millable wheat on which the full rate of deficiency payment may now be made. Farmers who grow wheat as well as oats and barley on the same farm, or on separate farms operated as one unit, must choose between deficiency payments for wheat and subsidy payments for oats and barley—they will not receive both wheat deficiency payments and oat and barley subsidy in respect of crops grown on such farms.

Wheat growing in Northern Ireland reached its peak in the year 1858 when the area under the crop was 89,403 acres, and the smallest acreage prior to the outbreak of war was 5,690 acres in 1913. In 1918 the area had increased to 22,197 acres—the highest since 1890—but by 1931 the acreage had fallen to 3,035 acres—the lowest area ever returned under wheat in Northern Ireland.

The following table gives particulars of the acreage sown, and estimated production in respect of the years 1931-37 inclusive:—

Year.	Acreage sown.	Estimated production.	Yield per statute acre.
	acres	cwt.	cwt.
1931	3,035	56,839	18.7
1932	3,260	65,015	19.9
1933	6,158	121,572	19.7
1934	8,676	194,520	22.4
1935	9,067	193,932	21.4
1936	6,871	146,186	21.3
1937	4,352	88,117	20.2

It will be observed that the area under wheat steadily increased to 9,067 acres in 1935, but fell to less than half that figure in 1937.

The most important wheat-growing area in Northern Ireland is East Down, the acreage in the Downpatrick and Newtownards rural districts representing about fifty per cent. of the total. Particulars of the acreages under wheat in each county at the 1st June in each of the past seven years are given in the following table:—

County.	1931	1932	1933	1934	1935	1936	1937
	acres	acres	acres	acres	acres	acres	acres
Antrim ..	288	342	594	862	775	624	274
Armagh ..	266	278	477	692	679	430	262
Down ..	1,569	1,599	3,817	5,359	5,683	3,952	2,685
Fermanagh ..	234	199	276	353	330	314	180
Londonderry ..	452	465	574	839	1,069	1,098	628
Tyrone ..	266	377	420	571	531	453	323
Total ..	3,035	3,260	6,158	8,676	9,067	6,871	4,352

In order that wheat growers may be able to claim deficiency payments under the Wheat Act in respect of all wheat of millable quality sold by them they must be registered with the Wheat Commission. The number of growers in Northern Ireland registered for each of the past five cereal years (1st August-31st July) were as follows:—

County.	1932-33	1933-34	1934-35	1935-36	1936-37
Antrim	135	277	343	357	386
Armagh	183	364	475	470	498
Down	734	1,474	1,735	1,879	1,954
Fermanagh ..	67	66	21	53	57
Londonderry ..	273	557	737	803	848
Tyrone	279	401	429	440	470
Totals	1,671	3,139	3,740	4,002	4,213

It will be noted that in every county except Fermanagh the number of registered growers has steadily increased since the Act came into operation.

The total quantity of wheat in respect of which valid wheat certificates were received by the Wheat Commission, and the total amount of deficiency payments paid to registered growers in each county of Northern Ireland in respect of the past five cereal years are as follows :—

Quantity of Wheat.

County	1932-33	1933-34	1934-35	1935-36	1936-37
	cwt.	cwt.	cwt.	cwt.	cwt.
Antrim	1,805½	6,010	14,434½	12,279	6,914
Armagh	1,539	4,753½	11,980	10,013½	5,306½
Down	21,732	59,909½	120,263	106,819½	56,343
Fermanagh	—	60	—	562½	50
Londonderry ..	2,589½	5,608½	13,002	16,529	11,771
Tyrone	1,463½	2,884	5,142	5,074½	2,650½
Totals	29,129½	79,225½	164,821½	151,278	83,035

Amount of Deficiency Payments.

County.	1932-33	1933-34	1934-35	1935-36	1936-37
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Antrim	400 11 2	1,459 17 8	2,739 10 4	2,059 16 0	389 15 6
Armagh	341 8 8	1,154 13 3	2,273 14 1	1,679 15 0	299 2 5
Down	4,821 11 8	14,552 17 7	22,824 14 10	17,918 17 8	3,176 6 11
Fermanagh	—	14 11 6	—	94 7 10	2 16 4
Londonderry ..	574 9 1	1,362 6 1	2,467 13 0	2,772 14 4	663 10 11
Tyrone	324 13 3	700 11 3	975 17 2	851 4 11	149 8 4
Totals	6,462 13 10	19,244 17 4	31,281 9 5	25,376 15 9	4,681 0 5
Deficiency payments per cwt. ..	s. d.	s. d.	s. d.	s. d.	s. d.
	4 5½	4 10.3	3 9.55	3 4.26	1 1.53

MARKETING SCHEMES.

AGRICULTURAL MARKETING (PIG INDUSTRY) ACT (N.I.) 1934.

PIG PRICES FOR JUNE, 1938.

The following announcement has been made by the Pig Industry Council.

PRICES FOR DEAD PIGS.

The prices per dead cwt. for dead pigs sold by producers to curers in Northern Ireland in June, 1938, are as follows:—

Weight Class. (Dead Weight)	Grade 1.	Grade 2.	Grade 3.	U.L. or U.F.	Partly Black Pigs.
c.1.0.21 to c.1.1.13	68/1	65/1	62/1	58/1	5/- below relevant Grade Price.
c.1.1.14 to c.1.2.3	72/1	69/1	66/1	62/1	
Weight Class. (Dead Weight)	Grade A.	Grade B.	Grade C.	U.L. or U.F.	
c.1.2.4 to c.1.2.14	72/1	69/1	66/1	63/1	
c.1.2.15 to c.1.3.14	72/1	69/1	66/1	63/1	
c.1.3.15 to c.2.0.0	69/1	66/1	63/1	60/1	
c.2.0.1 to c.2.0.14	63/1	60/1	57/1	54/1	

Pig Carcases c.1.0.0 to c.1.0.20:—65/1

Authorised cuts:—

- Broken ham (dry, shank and/or shell bone break)—5% of the gross value of the carcase.
- Broken ham (wet break)—12½% of the gross value of the carcase.
- Shoulder-stuck carcase—3/- per shoulder affected.

The gross value of a carcase is the product of the dead weight and the relevant grade or other price per cwt.

Where portion of a pig carcase is condemned on account of disease the existence of which could not reasonably have been known to the producer before despatch to the curer, the appropriate grade price (or fixed price if the carcase weighs not less than 1 cwt. 0 qr. 0 lb. and not more than 1 cwt. 0 qr. 20 lb.) shall apply. If the carcase is wholly condemned on account of disease the existence of which could not reasonably have been known to the producer before despatch to the curer the relevant Grade 2 or Grade B price (or fixed price if the carcase weighs not less than 1 cwt. 0 qr. 0 lb. and not more than 1 cwt. 0 qr. 20 lb.) shall apply.

The foregoing prices do not apply in the case of (a) wholly black pigs, boars, rigs or stags, sucked sows, and pig carcasses weighing under c.1.0.0 or over c.2.0.14, and (b) pigs visibly diagnosable as diseased before despatch by the producer and subsequently condemned; emaciated or screw pigs, smelling pig carcasses with definite indications of putrefaction, and pig carcasses badly abused or damaged before being handed over by the producer to the curer.

PRICES FOR WILTSHIRE PIGS SOLD ON DIRECT CONTRACT.

In the case of pigs sold alive under direct contract to Wiltshire curers the prices per dead cwt. payable for pigs delivered in respect of the month of June, 1938, are as follows:—

Weight Class. (Dead Weight)	Grade 1.	Grade 2.	Grade 3.	U.L. or U.F.	Unsuitable.
c.1.0.21 to c.1.1.13	78/1	75/1	72/1	68/1	65/1
c.1.1.14 to c.1.2.3	78/1	75/1	72/1	68/1	65/1
	Grade A.	Grade B.	Grade C.		U.L. or U.F.
c.1.2.4 to c.1.2.7	75/1	72/1	69/1		66/1
c.1.0.0 to c.1.0.20	Suitable 67/1		Unsuitable 65/1		
Over c.1.2.7	On the same basis as pigs sold dead				

PRICES FOR LIVE PIGS SOLD TO THE PIGS MARKETING BOARD (NORTHERN IRELAND).

In the case of pigs sold alive to the Pigs Marketing Board during June, 1938, the prices per live cwt., according to grade, are as follows:—

Live Weight.	Grade 1.	Grade 2.	Grade 3.	Unsuitable.
c.1.1.14 to c.1.2.13	50/3	50/3	50/3	48/9
c.1.2.14 to c.2.0.0	58/6	56/3	54/-	U.L. or U.F. 51/- 48/9
c.2.0.1 to c.2.1.14	54/-	51/9	49/6	47/3
c.2.1.15 to c.2.2.7	51/9	49/6	47/3	45/-
c.2.2.8 to c.2.2.21	47/3	45/-	42/9	40/6

These prices do not apply to live pigs under c.1.1.14 or over c.2.2.21, live pigs intended for breeding, live boars, live sucked sows, rigs or stags, injured or diseased pigs, live in-pig gilts, or live pigs sold (on contract registered with the Pig Industry Council) to curers in Northern Ireland. All other live pigs inside the weights c.1.2.0 to c.2.2.21 can be sold only to the Board.

AUTHORISED DEDUCTIONS.

Every pig (dead or alive) sold to a curer or to the Pigs Marketing Board is subject to a levy and contribution at present amounting to 3/-.

In addition to this amount, a deduction of 4d. per pig may be made in the case of sales to curers to cover insurance, so that the producer will not suffer financial loss if the carcase is condemned as unfit for human consumption.

GRADING STATISTICS.

Table showing the percentages of pig carcasses falling within the weight and grade classes indicated during March, 1938.

Under c.1.0.21				c.1.0.21 to c.1.1.13					c.1.1.14 to c.1.2.3					Totals
Suitable	Un-suitable			Grade 1	Grade 2	Grade 3	U.L. & U.F.	U.	Grade 1	Grade 2	Grade 3	U.L. & U.F.	U.	
1.62	.34			2.81	1.85	.54	.39	.03	4.92	6.07	2.75	1.41	.03	
Grade A.				Grade B.				Grade C.						
1	2	3	4	1	2	3	4	1	2	3	4			
9.05	20.23	2.93	.50	6.45	19.07	3.74	.88	2.13	7.56	.98	.21	73.73		
Ungraded Carcases.														
Under Grade A measurements. U.L.		Over Grade C measurements. U.F.		Wholly condemned U1.		Wholly black, injured or damaged U2.		Overweights, boars, sows, etc X		Partly Black Y.				
.04		2.32		.04		.45		.64		.02		3.51		
Total												100%		

These figures have been calculated from the purchase and grading statements which the curers furnish to the Ministry.

The volume of trade in pig carcasses during March was increased on the month. The average value per carcase was 4d. cheaper at £5 10s. 11d. The average weight dropped by a further 2 lbs. to c.1. 2q. 17lb., and the average price per cwt. rose by 2d. to £3 6s. 11d.

COST OF STANDARD PIG RATION.

The average retail cash price per cwt. of the standard ration for the sixteen weeks' period ended 21st May, was 10/1¼d. This figure has been calculated by the Ministry from returns collected from 10 representative centres in Northern Ireland.

The following is the ration upon which the feeding cost is based :—

Maize Meal	...	...	...	30%
Barley Meal	...	...	...	30%
White Pollards	...	...	...	20%
White Bran	...	...	...	10%
Meat Meal (60% Protein)	...	...	...	10%

THE CATTLE INDUSTRY (EMERGENCY PROVISIONS) ACTS, 1934 AND 1935 AND THE LIVESTOCK INDUSTRY ACT, 1937.

The following is a summary made under these Acts up to and including 28th May, 1938.

<i>Live Weight</i>		<i>Number of Animals</i>	<i>Total Amount paid</i>		
			£	s.	d.
England and Wales	..	4,114,605	9,908,177	5	7
Scotland	..	1,258,327	3,210,506	9	2
Northern Ireland	..	436,532	916,451	6	9
Total (United Kingdom)	..	5,809,464	14,035,135	1	6
<i>Dead Weight</i>					
England and Wales	..	132,027	331,683	6	2
Scotland	..	38,228	107,072	18	7
Total (Great Britain)	..	170,255	438,756	4	9

NUMBERS CERTIFIED FOR SUBSIDY.

The numbers of fat cattle certified for payment of subsidy, published by the Livestock Commission in respect of the month of April, 1938, are shown hereunder :—

	April, 1938.					Corresponding totals in	
	Home-bred		Imported		Total	April, 1937	April, 1936
	Ordinary Grade	Quality Grade	Ordinary Grade	Quality Grade			
England ..	24,692	32,958	6,381	14,327	78,358	93,055	91,715
Wales ..	2,440	1,372	30	43	3,885	3,908	4,128
Scotland ..	2,743	16,519	857	11,236	31,355	32,853	35,458
Northern Ireland	6,226	1,733	379	161	8,499	9,374	11,640
United Kingdom	36,101	52,582	7,647	25,767	122,097	139,190	142,941

As the great majority of fat stock markets are held on early days of the week, the rate of marketing of fat cattle cannot be judged accurately from the number of animals marketed in a calendar month. For comparative purposes appropriate weights are applied by the Livestock Commission to each day of the week, and the figures for each calendar month are adjusted accordingly, so as to allow as far as possible for the fact that a large number of markets are held on Mondays, and that the number of markets held decreases day by day as the week proceeds. The adjusted figures for April, 1938, 1937 and 1936 are 128,123, 144,547 and 146,373 respectively.

The average prices per live cwt. of certified cattle in April, 1938, were :—

	April, 1938.						Corresponding averages in			
	Ordinary Grade.		Quality Grade.		Average.		April, 1937		April, 1936	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
England	42	0	44	8	43	8	—	—	—	—
Wales	43	6	46	6	44	8	—	—	—	—
England and Wales	42	1	44	8	43	8	39	6	35	0
Scotland	42	3	45	7	45	3	40	9	36	1
Northern Ireland ..	40	4	41	5	40	7	36	9	30	11
United Kingdom ..	41	10	45	0	43	11	39	7	35	0

WHEAT ACT, 1932.

ADVANCE PAYMENT TO REGISTERED GROWERS ON ACCOUNT OF DEFICIENCY PAYMENTS FOR 1937-38.

In accordance with Byelaw 31 of the Wheat Byelaws, 1932, the Wheat Commission has given notice that they have decided to make an advance payment to registered growers who make proper applications on valid wheat certificates delivered to the Commission after the 27th January, and on or before Thursday, the 26th May, 1938. This advance payment is on account of the deficiency payments that will become due, under the Wheat Act, for the cereal year ending 31st July, 1938. It will be made on or about Saturday, the 18th June, 1938, and will be at the rate of 8d. per cwt., equal to 3s. 0d. per quarter of 504 lbs. Such balance as may become due will be paid in September, 1938. Until then no further payment will be made in respect of these certificates.

The advance payment now announced will place growers who have delivered wheat certificates since the 27th January in the same position as those who received a payment on account towards the end of February.

AGRICULTURAL NOTES.

SEASONAL FARM NOTES.

WEEDS.—The present season, as the result of the fine weather conditions prevailing during the sowing, planting, and early growing stages, has already provided ample opportunities for the destruction of weeds in the course of the normal operations of cultivation, and in many districts it is probable that the crops are more free from weed infestation than is usual at this period of the year. The campaign against weed destruction should not, however, be relaxed in the slightest on this account, but should be carried on right through the growing season.

The period between the completion of the sowing of the turnip crop and the commencement of the hay harvest is usually fairly slack so far as farm work is concerned, and advantage should be taken of the opportunity to “clean up” the crops and pastures before the weeds have got to the seeding stage. Thistles and docks growing in fields of oats, barley, and flax should be pulled or spudded out before the crop is too tall for such work. This will not only help in reducing the number of weeds in future years, but will also save much inconvenience and discomfort in handling at harvest time.

In late districts, crops of oats or flax which are infested with charlock may yet be cleaned by spraying with copper sulphate solution as directed in last month’s Report. The operation should, however, be done at once. Full particulars regarding the method are given in Leaflet No. 38.

In the case of weeds growing in pasture land, it is to be regretted that cutting, if carried out at all, is often done too late in the growing period of the weeds to have any real effect in reducing the number in later years. To be really successful, this operation should be performed early in the season, before the weeds have had time to store up reserves of food or to reach the flowering stage. Experiments have shown that early cutting, followed by a second cutting, if necessary, later in the season, weakens the plants so much that their reserves of food are exhausted, and many of them die. The cutting of the weeds provides an opportunity for “topping” the shot grasses and such treatment is very beneficial to the pasture, as it prevents the grasses from running to the seeding stage, in which the feeding value is considerably reduced, and encourages the growth of fresh young grass. Even if weeds are not present in the pasture the “topping” of the shot grass should be carried out by running the mower high over the field.

Destruction of weeds not only cleans the farm, but it also prevents the wastage of fertilising materials and of space which would otherwise be available for the growing crop. It is, therefore, a duty which should not be neglected, and in this connection farmers are also reminded that under the

Weeds Act it is an offence to permit weeds such as thistle, dock, ragwort ("ragweed" or "benweed") and ox-eye daisy or "dog" daisy to grow until after the seeding stage has been reached.

POTATOES.—Crops of potatoes should be frequently hoed and moulded, not only to provide suitable rooting conditions for the plants, but also to assist in keeping down weeds. Proper earthing-up is of great assistance in preventing losses due to sunburn and to blighted tubers caused by the spores of potato blight being washed down from the leaves and stems on to exposed tubers.

In districts where early and second early varieties are being raised, and where a subsequent crop of vegetables is not to be planted immediately, a catch crop might be sown with advantage, not only to keep the ground clean but to provide a useful bulk of green fodder. Italian ryegrass, or a quick-growing variety of Aberdeen turnips, generally gives quite good results in this type of cropping.

POTATO SPRAYING.—Supplies of spraying materials such as copper sulphate and washing soda should be procured early in the season, in order that spraying operations may not be delayed when the time for application arrives. In normal seasons, the first spraying should be given not later than the first week of July, with the second and third applications following at fortnightly intervals. Information regarding the preparation and application of suitable spray mixtures is given in Leaflet No. 50.

It is emphasised that as spraying of potatoes is not a remedy for blight, but a preventive, the first application must be made before any signs of disease are apparent on the foliage. Even the early varieties will benefit by spraying, particularly where it is intended that seed should be saved. The loss in blighted tubers from an unsprayed crop is usually considerable, and often reaches serious proportions in the case of seed potatoes.

"ROGUEING" OF CROPS.—Crops grown from selected stocks of potatoes should be specially examined for the purpose of the removal of any plants showing signs of such diseases as leaf roll and mosaic. The presence of these diseases can be detected most easily when the plants are comparatively young. Plants affected with leaf roll have a stunted appearance, the margins of the lower leaves roll inwards, the tips of the leaflets turn brown, and the leaflets on the lower leaves become thickened and brittle, making a peculiar rattle when moved. Rolling of the top leaves on a plant is not a certain indication of this disease. The leaflets of plants affected with mosaic disease have a wrinkled appearance and variegated colour. Fuller particulars of these diseases are given in Leaflet No. 73.

INSPECTION OF CROPS.—Potato-growers who intend having their crops inspected for the Ministry's Purity Certificates should make application to the Ministry, or to the local Potato Inspector, before the end of June. The possession of a Purity Certificate is of distinct advantage if the produce is to be sold for seed purposes.

HAY.—In many districts there may be a tendency on the part of farmers to permit the hay crops to grow a little later than usual, in order to try to compensate for the lightness of the crops as the result of the prolonged drought in spring. It is extremely doubtful whether there is any advantage in this policy, as the hay will tend to become over-ripe before cutting, thereby losing much of its feeding value. As a general rule (except in the case of hay intended for seed) the superior nutritive value of hay which has been cut and saved before it is fully ripe and is in a comparatively leafy stage more than compensates for any slight reduction in yield.

SEASONAL LIVESTOCK NOTES.

CALF REARING.—Calves should be encouraged to eat a small allowance of meals after they have reached the age of 4 weeks. This will be particularly helpful where it is desired to change the animals from whole milk to separated milk, as the meals will replace (from the nutritive point of view) the fat which is missing from the separated milk. Crushed oats alone, or a mixture of crushed oats and maize meal or flaked maize, should be given at the rate of about $\frac{1}{4}$ lb. per calf daily at this stage. It must be remembered that any changes in the diet of the calf should be made very gradually, otherwise digestive troubles are likely to occur.

DISHORNING OF CALVES.—The dishorning of calves intended for sale as beef or stores should not be overlooked. The operation should be carried out before the animals are nine days old. The caustic potash method is effective and inexpensive, and the increased value of dishorned cattle makes dishorning a very profitable undertaking. Fuller particulars regarding dishorning are given in Leaflet No. 5.

PIGS.—In-pig sows and sows with their litters should be allowed out on clean, fresh pasture as much as possible. Access to grazing not only reduces the quantity of food necessary to maintain the sows in good condition, but it is also of great assistance in keeping the young pigs healthy and thriving. Care should be taken, however, to ensure that some type of shade is available on hot, sunny days, as otherwise the young pigs may suffer considerably from skin irritation.

When the pigs are about one month old, they should be encouraged to eat a little meal. This may be done by providing a "creep" in the farrowing pen, a convenient method being by placing a shallow trough in one corner of the

pen, and railing it off in such a manner that the sow cannot reach it, but with the bottom bar of the railing sufficiently high to allow the young pigs to pass through underneath. A suitable meal mixture for the young pigs at this stage is equal parts flaked maize, pollard, and bran, wet with separated milk.

FATTENING OF PIGS.—Pig producers are reminded that close attention must be paid to the type of ration used during the fattening stage, in order that the carcase may produce bacon of good quality. In particular, farmers should avoid the use of excessive quantities of those foods which tend to produce a soft, oily fat. Maize meal, when fed to excess, has a tendency in this direction, and therefore, it is wrong to use more than 35 or 40 per cent. of this food, or of other maize products, in the ration. Excessive quantities of pollards should also be avoided. Among the foods which should not be included in meal mixtures for fattening pigs are linseed cake meal, rice meal, maize germ meal, cod liver oil, fish meal, and meat meal of high oil content. All these foods tend to produce soft, oily bacon with undesirable taints.

SHEEP DIPPING.—Sheep owners should note that the summer dipping period extends from the 15th June to the 15th August. All sheep must be dipped twice within this period, with an interval of not less than 7 or more than 14 days between the two dippings.

Sheep should not be dipped when overheated after being driven to the dipping centre. It is advisable to give them a period of rest in an open space after they reach the centre, in order to permit of their attaining a normal temperature before dipping is begun.

SHEEP-MAGGOT FLY.—A careful watch should be kept on the flock for signs of attack by the sheep-maggot fly, particularly during periods of damp, sultry weather. If attacks occur, the maggots should be rubbed out, using a little carbolic sheep dip to assist in dislodging them. If the skin is broken the sores should be dressed with an ointment made up of powdered sulphur mixed with fresh lard or with linseed oil.

SEASONAL GARDEN AND ORCHARD NOTES

APPLE TREES.—Trees of such varieties as Bramley's Seedling, Newton Wonder, and Lane's Prince Albert should be sprayed at intervals of from 14 to 21 days until the middle of July with Bordeaux mixture in order to protect the young shoots and fruit from apple scab disease. The mixture should be prepared by mixing 1lb. bluestone and $4\frac{1}{2}$ lb. hydrated lime in 40 gallons water. Such varieties as Grenadier, Royal Jubilee, Royal Codlin and most dessert varieties should not be sprayed after the flowers have fallen.

The grass in grass orchards should now be cut and left on the ground to rot down. In no circumstances should the grass be made into hay and removed.

PLUM TREES.—A careful watch should be kept for silver leaf disease in plum and damson trees. This disease usually attacks one branch at a time and if the affected branch is removed early the remainder of the tree may be saved. The removal of infected branches should be done during the months of June, July, and mid-August, as if done then the wounds soon become protected and further infection by the disease is rendered unlikely. Any other pruning necessary in the case of plum and damson trees should be done during these months.

GOOSEBERRIES.—Gooseberry bushes should be examined periodically for the gooseberry saw-fly caterpillars. Sometimes a second brood of these appear about the middle of June. Since the fruit is approaching maturity at this time arsenate of lead cannot be used, but if the bushes are sprayed with any good contact insecticide (such as nicotine, or any preparation of derris or pyrethrum) when the caterpillars are quite small they are easily destroyed. After an interval of a few days the fruit can be safely used. Where the first brood of caterpillars was dealt with the bushes are seldom attacked later in the year.

VEGETABLES.—The planting out of winter vegetables such as Savoy cabbage and late broccoli as advised last month should be completed without delay. The ground between the growing plants should be hoed frequently to encourage growth and to keep down weeds.

Further sowings of lettuce and garden turnips should be made to keep up the supply. In late districts seed of spring cabbage should be sown during the first week of July, but in early districts it need not be sown until the second or third week of that month. The soil of the seed bed should be made fine and should not be manured. Sow in lines about 15 inches apart and scatter the seed thinly. Durham Early, Flower of Spring, and Early Market are suitable varieties.

CABBAGE ROOT-FLY.—This pest, which attacks all members of the cabbage family, but especially cauliflowers, can be controlled by the use of the mercuric chloride solution recommended in last month's Report for the prevention of club-root. In treating for the root-fly, however, two applications of the solution are necessary. The first should be given about four days after planting out, and the second about fourteen days later. At each application each plant should be "watered" with about half a pint of the solution. The solution consists of 1 oz. mercuric chloride dissolved in 10 gallons of water.

CELERY BLIGHT.—As soon as the celery plants have become established in their permanent quarters they should be sprayed with Burgundy mixture to protect them from attack by celery blight. Spraying should be repeated at intervals of from 10 to 14 days during the growing season. In this connection prevention of the disease should be the aim, as once the disease gets a

hold on the crop no amount of spraying will be of any use. The mixture is prepared by dissolving 2 lb. bluestone and $2\frac{1}{2}$ lb. washing soda in 10 gallons water, and this quantity is sufficient for about 100 yards of a single line of plants.

SLUGS.—A very successful preparation for the destruction of these pests consists of two tablets of "Meta," ground to a fine powder, and mixed with one pint of bran. The mixture should be sprinkled on the ground among the plants being attacked. Little heaps of the bait should also be placed here and there among the plants and covered with a piece of slate or board. "Meta" can be obtained from chemists or druggists; a sixpenny packet contains ten tablets.

FLOWERS.—Wallflowers, forget-me-nots and other spring flowering plants which were sown last month should be pricked out into nursery beds as soon as they are fit to handle. These plants are often spoiled by being left too long in the seedling bed, so that they become crowded and weakly. Transplanting should be done during showery weather if possible.

GENERAL.—One of the most important duties at this time of the year is to keep the ground between growing plants frequently hoed, in order to keep weeds in check and to conserve the soil moisture. Plants requiring supports should have these provided before they are actually needed. Once plants are allowed to fall over they receive a check to growth from which they seldom recover. This is particularly so in the case of the edible pea. These should always be staked when they are quite small.

SEASONAL POULTRY-KEEPING NOTES.

STORAGE OF REARING APPLIANCES.—When the hatching and rearing season is completed all the incubators and rearing appliances should be carefully cleaned before being stored away. Thorough disinfection is especially necessary where there have been outbreaks of disease, but this precaution should be adopted, even on disease-free farms, as a routine measure to be carried out at the end of each rearing season. A disinfectant, such as Jeyes' Fluid at the strength of 1 part in 20 parts water, is useful for general purposes, and can be applied with a brush or as a spray. Fumigation with formaldehyde gas should always be carried out in addition to this treatment. Full particulars relating to the fumigation of houses and appliances are given in Leaflet No. 59.

CARE OF POULTRY HOUSES.—Poultry houses should now be thoroughly cleaned and limewashed in order to freshen them and make them healthier for the birds. This treatment will also lessen the number of parasites, such as red mites and lice, which often cause trouble during the summer months.

If red mites are present it is advisable to add paraffin to the limewash at the rate of about $\frac{1}{2}$ pint to each gallon of wash. Lice can readily be destroyed by painting the upper surface of the perches with nicotine sulphate just before the birds go to roost in the evening. Nicotine sulphate is obtainable from most chemists. It is particularly desirable that pests such as red mites and lice should be destroyed before they hinder the development of the young stock.

POULTRY RUNS.—The grass on poultry runs should be kept short and palatable for the birds, either by frequent mowings or by running a few sheep, if available, in the pens.

PROVISION OF SHADE.—If natural shade is not available from hedges, trees, etc., during hot weather a rough shelter should be provided to afford protection for the poultry from the sun. This is especially important in the case where birds are being housed in arks or slatted-floor houses on free range.

CARE OF EGGS.—Attention is again directed to the necessity for care in the methods of production and handling of eggs during the summer months. Any male birds remaining should be removed from the laying flock and either kept in isolation or sold off. The eggs should be collected from the nests frequently, stored in a cool, well-ventilated room, and marketed regularly. Broody hens should be removed from the nests as soon as they are observed, otherwise the quality of the eggs may be seriously impaired. Such hens should be put into airy coops and fed well in order that they may return into production quickly.

REARING OF TURKEYS.—Young turkeys should, if at all possible, be reared on free range over fresh, clean pasture. Rearing on fresh ground helps to prevent outbreaks of diseases such as blackhead, coccidiosis, gapes, etc., and is of great assistance in building up strong, sturdy birds. Care should be taken, however, to protect the turkey chicks from rain and to prevent them from ranging through long, wet grass, as they are rather susceptible to chills at this stage, particularly until they have got red heads at about 8 weeks old. Read Leaflet No. 37 for hints on turkey rearing.

ANNOUNCEMENTS AND REMINDERS.

SCHOOLS.—The next session at the Ulster Dairy School, Cookstown, and at the North-West School, Strabane, will commence on the 19th July. Applications for the free Scholarships offered to the North-West School by each County Committee of Agriculture should be sent to the Secretary of the Committee for the County as soon as possible, as the Scholarships are awarded in the order in which applications are received. There is no qualifying examination for these Scholarships. Applications for admission to the Ulster Dairy School should be sent to the Ministry of Agriculture. Copies of the prospectuses of both Schools, which contain application forms, can be obtained from the Ministry free, on request.

GREENMOUNT AGRICULTURAL AND HORTICULTURAL COLLEGE.—Applications for the Scholarships to this College, offered by the County Committees of Agriculture, should be made to the Secretary, County Committee of Agriculture, before 31st July next. Copies of the prospectus are obtainable from the Ministry free, on request.

WEEDS.—Noxious weeds (thistle, dock, ragwort, and ox-eye daisy) should be destroyed early in order to reduce infestations in later years. Inspections by the police in connection with the destruction of these weeds will be carried out shortly.

SHEEP DIPPING.—The summer period for compulsory double dipping of sheep commences on the 15th June, and ends on the 15th August. During this period all sheep must be dipped twice, with an interval of not less than seven or more than fourteen days between the two dippings.

BLOOD-TESTING OF POULTRY.—Poultry-keepers who wish to have their birds tested for Bacillary White Diarrhoea disease should make application to the Instructor in Poultry-Keeping for the district as soon as possible. Copies of the Scheme, giving full particulars regarding the conditions under which testing is carried out, fees, etc., and of the prescribed form of application, may be obtained from the Ministry.

INSPECTION OF GROWING CROPS OF POTATOES.—Potato growers who are desirous of having their crops inspected for purity should make immediate application to the local Potato Inspector, or to the Ministry. No assurance of inspection can be given in the case of late applications. Inspection is carried out free of charge, and the possession of a purity certificate is of considerable advantage when it is desired to sell seed.

LICENSING OF BULLS.—All bulls born in July, August, September, October, November and December, 1937, must be licensed by the 30th September next. Applications for licences must reach the Ministry not later than the 31st July. Application forms may be obtained at any Police Barracks or direct from the Ministry. Every person who lodges on the prescribed form an application

for a licence will be notified by the Ministry regarding the actual place, date and hour appointed for the inspection of the bull.

APPLE ORCHARD COMPETITIONS.—These competitions will again be conducted this year by the Ulster Horticultural Society. Entries should be forwarded not later than the 15th July to the Secretary of the Society, Mr. R. McCann, 39 Textile Buildings, 9 Donegall Square South, Belfast, from whom further particulars can be obtained on request.

DESTRUCTION OF WEEDS.

Under the Weeds and Agricultural Seeds Acts (Northern Ireland), 1909 and 1929, occupiers of land are required to destroy noxious weeds, including thistle, dock, ragwort (benweed), and ox-eye daisy or dog daisy. Failure to have weeds destroyed is an offence for which occupiers are liable to be convicted and fined. Inspections of farms to see if weeds have been destroyed will be made by the police during the months of July and August. Farmers are strongly advised, in their own interests, to make every endeavour to have all weeds destroyed in good time and in every case, before seeding occurs.

Farmers on whose lands certain weeds are found to be growing when the inspection takes place are required under penalty to have them destroyed before seeding occurs. The destruction before seeding is an important step towards the suppression of weeds. When a farmer destroys the weeds on his own farm before they seed and his neighbour is compelled under the Acts to do likewise, the labour involved in destruction may be regarded as productive, inasmuch as weed seeds cannot then be blown in either case on to the land that has been cleared and fresh crops of weeds are avoided during the following years.

Weeds reduce crop yields, depreciate the quality and value of crops and add to the cost of production. They rob the crops of food. One ton of ragwort (benweed) takes from the soil the equivalent of 75 lb. sulphate of ammonia or considerably more than is removed by one ton of oats. Charlock or preshaugh may reduce the yield from a field of oats by one-half. Weeds shade and dwarf the crop, and even establish themselves in its stead. Recent observations have shown that ragwort may cause serious derangements in cattle, which may end fatally. Weeds mean loss of crop and loss of money.

REGISTRATION OF ACCREDITED POULTRY FARMS

In order to raise the standard of poultry-keeping in Northern Ireland to a still higher level, and to make easily available to poultry-keepers a list of names of reliable breeders in Northern Ireland from whom purchases may be made with a minimum of risk as regards disease, the Ministry proposes to compile and issue for the 1938/39 hatching season a Register of Accredited Poultry Farms in Northern Ireland, the owners of which will undertake to comply with certain conditions designed to ensure that the farms are free

from poultry, disease—more particularly Bacillary White Diarrhoea—and that the breeding stock is otherwise satisfactory. Applications are invited from poultry-breeders who desire to have their farms registered, and who will undertake to comply with the provisions of the Scheme.

The stock and premises of each applicant for registration will be inspected by an officer of the Ministry, and applicants to whom provisional approval is accorded will have the necessary blood-testing done free of charge.

In order to qualify for free blood-testing service, persons who wish to have their names included in the Register must forward their applications on the prescribed form to the Ministry on or before 1st August, 1938. Applications received after that date will be considered only if the applicant undertakes to pay blood-testing fees on the scale laid down in the Ministry's Scheme for the Blood-Testing of Poultry for Bacillary White Diarrhoea.

Further information in connection with the Scheme, and application forms, may be obtained from the Secretary, Ministry of Agriculture, Stormont, Belfast, or from the local Instructor in Poultry-Keeping.

SCHOLARSHIPS IN AGRICULTURAL SCIENCE.

The attention of young men in Northern Ireland is directed to the offer by the Ministry of Agriculture of not more than six Scholarships in Agricultural Science for competition in the autumn of this year. Each scholarship is of the value of £95 per annum, and is tenable for four years in the Faculty of Agriculture of Queen's University, Belfast. Successful candidates are afforded an opportunity of securing advanced training in Agricultural Science, and of obtaining on conclusion of their course the degree of Bachelor of Agriculture.

Candidates must be between the ages of 17 and 25 years on 15th November, 1938, but a reasonable extension of the upper age limit may be granted where the Ministry is satisfied that a candidate has had extended experience of practical agriculture. In addition, candidates must have passed the Matriculation Examination of the Queen's University or its accepted equivalent. Eligible applicants will be submitted to an examination to test their knowledge of practical agriculture and their knowledge of elementary science as applied to agriculture.

For more detailed particulars regarding these scholarships those interested should communicate with the Secretary, Ministry of Agriculture, Stormont, Belfast. It should be noted that the latest date for the receipt of applications for these scholarships in the Ministry is 15th August, 1938.

SCHOLARSHIP IN HORTICULTURAL SCIENCE.

Young men in Northern Ireland who wish to specialise in Horticulture in order to be eligible for posts on the horticultural advisory staffs of the County Committees of Agriculture, or for posts of a similar nature in Northern Ire-

land, should note that the Ministry of Agriculture is offering a valuable Scholarship for competition in the early autumn of this year. The scholarship is of the value of £640, and is tenable for four years, the first three of which will be spent at the University of Reading, where the student will be able to qualify for the degree of Bachelor of Science (Horticulture). The fourth year will be passed at a Horticultural Establishment to be selected by the Ministry.

Candidates must be between the ages of 17 and 25 years on 1st October, 1938, but a reasonable extension of the upper age limit may be granted where the Ministry is satisfied that a candidate has had extended experience of practical horticulture. Candidates must have passed an examination such as the Matriculation Examination of the Queen's University, Belfast, recognised by the University of Reading as complying with its regulations in regard to matriculation, and will be submitted to an examination by the Ministry to test their knowledge of horticulture.

More detailed particulars regarding this scholarship can be obtained from the Secretary, Ministry of Agriculture, Stormont, Belfast, and it should be noted that the latest date for the receipt of applications in the Ministry is 20th August, 1938.

SCHOLARSHIPS IN CREAMERY MANAGEMENT, 1938.

The following candidates have been declared successful in the Competitive Examination for Scholarships in Creamery Management which was held on the 26th April last :—

James Francis McHugh, Market Street, Downpatrick, Co. Down.

John James Patterson, Dublin Road, Newtownstewart, Co. Tyrone.

SIXTEENTH EGG LAYING TEST AT STORMONT.

The ninth period of four weeks ended on the 9th June, 1938. There was a further decrease in egg production, and an increase in the number of scoring eggs. The total number of eggs laid during the period was 11,393, which, on the basis of the entire original flock, gives an average of 16.0 eggs per bird. Of this number 9,770 or 85.7 per cent. were scoring eggs (super grade and first grade), whereas the percentage of scoring eggs in the previous period was 83.2 per cent. The average egg production to date for all birds originally penned is 135.2 as compared with 143.9 for the first 36 weeks of the previous test. The highest average sectional egg production is to the credit of the White Leghorns in Section 2, viz., 17.5 eggs per bird, the Rhode Island Reds in Section 3 being next with an average of 17.4 eggs per bird. Fifteen birds died during the period, bringing the total number of deaths to 75. This represents a mortality rate of 10.5 per cent. as compared with 5.4 per cent. for the corresponding 36 weeks of the previous test. The following are particulars of the leading pens in each Section at the end of the ninth period :—

SECTION 1. WHITE WYANDOTTES (OPEN). 22 Pens.

Position	No. of Pen	Name and Address of Owner.	Number of eggs laid.				Test Score
			Super Grade	1st Grade	2nd Grade	Below 2nd Grade	
1	10	Mrs. J. R. Jackson, Fortview, Coleraine, Co. Londonderry.	228	662	155	5	890
2	7	Lt.-Col. J. P. Galbraith, Clanabogan, Omagh, Co. Tyrone.	386	457	46	1	843
3	4	Mrs. H. G. Darley, Trory, Ballinamallard, Co. Fermanagh.	315	512	66	3	827
4	19	Mr. J. C. Stewart, Balloo, Killinchy, Co. Down.	328	477	146	1	805

SECTION 2. WHITE LEGHORNS (OPEN). 9 Pens.

1	29	Mr. J. Stevenson, Maze View, Corcreeny, Hillsborough, Co. Down.	339	543	103	9	882
2	31	Mr. J. O. Turkington, Derryinver, Lurgan, Co. Armagh.	592	243	13	1	835
3	26	Mr. T. J. M'Millan, Crossgar, Co. Down.	455	288	27	—	743

SECTION 3. RHODE ISLAND REDS (OPEN). 26 Pens.

1	39	Mrs. Hamilton Farr, Elsneuk, Dundrum Road, Newcastle, Co. Down.	618	329	23	1	947
2	49	Mrs. J. McNeill, Drain's Bay, Larne, Co. Antrim.	418	495	39	—	913
3	43	Miss E. E. Kennedy, Tullyreagh, Glarryford, Co. Antrim.	467	380	22	—	847
4	57	Mr. H. Ramsey, Sylvan Cottage, Gilnahirk, Belfast.	381	450	92	—	831

SECTION 4. ANY OTHER PURE BREED (OPEN). 15 Pens.

1	67	Mr. R. Holmes, Moneycarrie, Killykeegan, Coleraine, Co. Londonderry. (Buff Rock.)	708	279	11	1	987
2	68	Mr. R. Holmes, Moneycarrie, Killykeegan, Coleraine, Co. Londonderry. (Buff Rock.)	514	363	82	3	877
3	62	Mrs. M. Benson, Killymoon, Cookstown, Co. Tyrone. (Light Sussex.)	228	490	45	4	718

SECTION 5(a). WHITE WYANDOTTES (STATIONHOLDERS). 9 Pens.

Position	No. of Pen	Name and Address of Owner.	Number of eggs laid.				Test Score
			Super Grade	1st Grade	2nd Grade	Below 2nd Grade	
1	76	Miss A. Brown, Ballyhill, Crumlin, Co. Antrim.	187	590	241	2	777
2	81	Miss A. Peel, Aghadalong, Roses Lane Ends, Belfast.	439	336	77	2	775
3	82	Mrs. M. Rodgers, Ballyginney, Dundrum, Co. Down.	387	354	60	—	741

SECTION 5(b). WHITE LEGHORNS (STATIONHOLDERS). 7 Pens.

1	89	Miss I. Gilmer, Rashee, Ballyclare, Co. Antrim.	430	476	29	1	906
2	91	Miss I. J. Magill, Mulloughdrin, Dromara, Co. Down.	612	177	108	4	789
3	96	Mrs. J. Knox, Shanmullagh, Ederney, Co. Fermanagh.	274	505	58	—	779

SECTION 5(c). RHODE ISLAND REDS (STATIONHOLDERS). 18 Pens.

1	102	Mrs. R. M'Giffert, Rathcunningham, Toye, Belfast.	464	483	45	—	947
2	93	Mr. H. H. Dickson, Lower Coagh, Co. Tyrone.	399	429	31	2	828
3	110	Mrs. J. W. Stewart, Boghill, Coleraine, Co. Londonderry.	389	439	115	1	828

SECTION 6. POULTRY CLUBS AND YOUNG FARMERS' CLUBS. 12 Pens.

1	116	Banbridge and District Poultry Club, Co. Down. (Rhode Island Red.)	255	572	118	10	827
2	115	Ballywalter Young Farmers' Club. (White Wyandotte.)	442	327	130	10	769
3	114	Ballywalter Young Farmers' Club. (Rhode Island Red.)	309	385	60	1	694

Test Score means the total of the super-grade and first-grade eggs.

Mr. R. Holmes' pen, No. 67, of Buff Rocks in Section 4 retains 1st place in the entire test, while Mrs. R. McGiffert's pen, No. 102, of Rhode Island Reds in the Stationholders' Section for that breed, and pen No. 39 of Rhode Island Reds in Section 3 entered by Mrs. Farr are now second equal. Mrs. J. McNeill's pen, No. 49, of Rhode Island Reds in Section 3 occupies third place.

PRICES OF FEEDING STUFFS AT SPECIFIED CENTRES.

The following table shows the retail cash prices per cwt. of Feeding Stuffs at 1st June, 1938, in ten representative centres in Northern Ireland.

	Antrim		Armagh		Ballymena		Belfast		Castellwellan		Coleraine		Dungannon		Enniskillen		Omagh		Strabane	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Protein Foods :																				
Linseed (whole) ..	—	—	18	0	16	0	16	0	20	0	18	0	—	—	16	0	19	0	17	6
Linseed Cake, home-made ..	—	—	13	0	12	0	12	0	—	—	—	—	13	0	10	9	12	0	—	—
Linseed Cake, foreign ..	11	3	11	6	11	0	11	0	—	—	12	0	12	0	9	6	11	0	11	0
Linseed Cake Meal ..	11	3	13	0	11	3	11	0	11	6	9	3	12	0	11	0	11	6	11	0
Cotton Cake, decorticated ..	9	6	—	—	9	0	10	6	10	9	9	3	10	6	10	9	11	0	10	6
Earthnut Cake, decorticated ..	9	0	—	—	9	0	8	6	8	9	8	6	9	6	9	6	11	0	10	0
Soya Bean Meal (extracted) ..	10	0	10	6	11	0	10	0	—	—	10	6	11	0	—	—	11	0	—	—
Fish Meal (60% protein) ..	17	0	15	6	16	0	16	6	—	—	17	0	17	0	16	0	17	0	17	0
Meat Meal (60% protein) ..	16	6	15	6	14	3	—	—	14	0	—	—	16	0	—	—	16	0	—	—
Meat and Bone Meal (40% protein) ..	—	—	11	0	10	3	10	0	—	—	10	9	10	6	—	—	—	—	11	6
Medium Protein Foods :																				
Palm Kernel Cake ..	9	0	—	—	9	0	7	9	—	—	9	6	—	—	—	—	9	6	—	—
Palm Kernel Meal ..	9	0	9	6	9	0	7	9	—	—	9	6	—	—	—	—	9	6	—	—
Starchy Foods :																				
Maize (whole) ..	7	0	7	6	7	9	7	0	—	—	7	9	7	9	7	9	—	—	7	3
Maize Meal ..	7	10½	8	0	7	9	7	6	8	0	7	9	7	9	8	0	8	0	7	9
Maize Flaked ..	8	4½	8	6	8	3	8	0	8	3	8	6	8	6	—	—	8	9	8	9
Wheat (whole) ..	9	6	10	0	8	6	9	6	10	9	11	0	10	0	—	—	—	—	—	—
Bran, Red ..	8	9	9	0	8	1½	9	0	—	—	8	6	8	6	9	6	9	0	8	9
Bran, White ..	10	0	10	0	9	6	10	0	10	0	10	3	10	0	10	6	10	6	10	6
Pollard, Brown ..	8	9	9	0	8	6	9	0	—	—	9	0	9	0	9	6	9	0	9	6
Pollard, White ..	—	—	10	0	9	4½	10	0	10	0	9	6	10	0	10	6	10	0	10	6
Barley Meal ..	9	0	10	0	9	1½	9	6	9	3	9	6	9	9	10	0	9	6	11	0
Tapioca Root Flour ..	7	6	8	0	8	0	—	—	—	—	—	—	8	0	9	6	—	—	—	—
Oats (whole) ..	9	6	9	0	8	7½	9	3	7	0	8	6	9	3	8	8	7	9	8	6
Crushed Oats ..	10	0	9	6	9	1½	10	0	7	6	9	0	10	0	9	4	8	6	9	6

NON-CONCENTRATES :—The average prices at representative markets at the beginning of June, 1938, were as follows :—
 Potatoes (Main Crop), 3/9½d. per cwt.; Upland Hay, 63/2d. per ton; Meadow Hay, 48/7d. per ton;
 Oat Straw, 43/- per ton.

AVERAGE PRICES OF FEEDING STUFFS.

The following table shows the average retail cash prices per cwt. of feeding stuffs at 1st June, 1938, with comparative prices as at the first of the previous month; the costs per unit of protein equivalent and of starch equivalent are also given in respect of each month.

	Pro- tein Equiv- alent	Starch Equiv- alent	Average price per cwt. at		Cost per unit of protein equivalent		Cost per unit of starch equivalent	
			1st June, 1938	1st May, 1938	June	May	June	May
Protein Foods			s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Linseed	19.0	119.0	17 7	17 8	18 6	18 7	2 11	3 0
Crushed Linseed	19.0	119.0	18 8	18 9	19 8	19 9	3 2	3 2
Linseed cake (home-made)	25.0	72.0	12 2	12 2	9 9	9 9	3 5	3 5
Linseed cake (foreign)	25.0	72.0	11 2	11 4	8 11	9 1	3 1	3 2
Linseed cake meal	25.0	72.0	11 6	11 10	9 2	9 6	3 2	3 3
Decorticated Cotton cake	35.0	71.0	10 2	10 2	5 10	5 10	2 10	2 10
Decorticated Earthnut cake	41.0	73.0	9 4	9 2	4 7	4 6	2 7	2 6
Extracted Soya bean meal	38.0	64.0	10 7	11 2	5 7	5 11	3 4	3 6
Fish meal (60% protein)	53.0	59.0	16 7	16 9	6 3	6 4	5 8	5 8
Meat meal (60% protein)	55.0	61.0	15 5	15 6	5 7	5 8	5 1	5 1
Meat & Bone meal (40% protein)	36.0	44.0	10 9	11 3	6 0	6 3	4 11	5 1
Medium Protein Foods								
Palm kernel cake	17.0	75.0	8 11	9 0	10 6	10 7	2 5	2 5
Palm kernel meal	17.0	75.0	9 1	8 10	10 8	10 4	2 5	2 4
Starchy Foods								
Maize	6.8	81.0	7 6	7 8	22 1	22 7	1 10	1 11
Maize meal	6.8	81.0	7 10	8 0	23 0	23 6	1 11	2 0
Flaked maize	8.6	83.0	8 5	8 6	19 8	19 9	2 0	2 1
Wheat	9.6	72.0	9 11	10 2	20 8	21 2	2 9	2 10
Red bran	10.0	43.0	8 10	8 10	17 8	17 8	4 1	4 1
White bran	10.0	43.0	10 2	10 2	20 4	20 4	4 9	4 9
Brown pollard	11.0	60.0	9 0	9 1	16 5	16 6	3 0	3 0
White pollard	11.0	60.0	10 0	10 0	18 2	18 2	3 4	3 4
Barley meal	7.0	70.0	9 8	9 11	27 8	28 4	2 9	2 10
Oats	7.6	60.0	8 7	8 9	22 7	23 0	2 10	2 11
Crushed oats	7.6	60.0	9 3	9 5	24 4	24 9	3 1	3 2
Tapioca root flour	1.0	83.5	8 2	7 8	163 4	153 4	1 11	1 10
Non-Concentrates								
Potatoes	0.6	18.0	3 9½	3 4	126 5	111 1	4 2½	3 8½
Upland hay	4.9	24.0	3 2	3 0½	12 11	12 4	2 7½	2 6
Meadow hay	4.6	31.0	2 5½	2 5	10 7	10 6	1 7	1 7
Oat Straw	0.9	20.0	2 1½	2 1½	47 8	47 3	2 2	2 1½

The object of the foregoing tables, besides providing information regarding the prices of feeding stuffs and the trend of prices, is to give purchasers a

guide as to the economic purchase of supplies. It should be understood that the price per ton is not a sound basis on which to judge whether or not a particular food or grade of a particular food is good value for money. The composition of the foods is the only basis on which different grades can be compared. The value of foods of different kinds, but of the same nature in reference to market prices, can also be compared on this basis.

In the case of an artificial manure which supplies only one fertilising ingredient as, for example, sulphate of ammonia, which supplies nitrogen, the cost of the unit of nitrogen at the price charged can be determined quite readily by dividing the price per ton by the percentage of nitrogen in the sample, and the figure thus obtained is the cost of a unit of nitrogen. By this method the most economical source of nitrogen can be ascertained. Similarly, in the cases of phosphatic and potassic manures.

With feeding stuffs, however, the same method cannot be applied to determine comparative values. This is because every feeding stuff contains three important food constituents in varying proportions. These are (1) carbohydrates, (2) oils or fats, and (3) proteins or albuminoids. The carbohydrates comprise a group of substances such as starch, sugar and cellulose. These substances supply heat or energy to the animal, and the surplus goes to form fat. They are the fuel which the animal requires to keep the body "fires" burning. The oils of a feeding stuff are also heat and energy suppliers, and the surplus is stored as fat. The oils are approximately $2\frac{1}{2}$ times more valuable than the carbohydrates as heat and energy producers, but excess in a ration may lower its digestibility and cause digestive troubles. The proteins are the most valuable and most expensive food constituent. They contain nitrogen and are the part of the food from which products which contain protein are chiefly made. Thus the protein products, such as lean meat, milk and eggs, are formed principally from protein, and young, growing animals, dairy cows and laying hens must have an adequate quantity of protein for full growth, development and production.

While all animals require a certain amount of carbohydrates, oils and proteins, the relative amounts depend on the class of stock. For example, a two-year-old fattening bullock requires much less protein than a dairy cow in milk and a fattening chicken less than a laying pullet.

There are wide differences in the composition of the different kinds of feeding stuffs. Some are rich in carbohydrates and, therefore, particularly valuable for fattening purposes. These include oats, maize, barley and wheat, and their products. Others are rich in protein and are valuable for producing flesh, milk and eggs. These include decorticated cotton cake, decorticated earthnut cake, meat meal and soya bean meal.

In the following table the composition of some of the commonly used feeding stuffs is shown—

	Water.	Protein.	Oil.	Carbohydrates.
Non concentrates				
Swede turnips ...	88	1	0.2	9
Potatoes ...	75	2	0.1	21
Cabbage ...	89	1.5	0.5	8
Oat Straw ...	14	4	2	37
Meadow hay ...	10	10	3	45
Pasture grass ...	80	3.5	0.8	10
Fattening Foods				
Crushed oats ...	13	9	6	60
Maize meal ...	12	10	4	70
Barley meal ...	13	12	2	66
Pollard ...	13	15	5	57
Flesh forming foods				
Decorticated Cotton cake ...	9	40	9	26
Decorticated Earthnut cake ...	10	46	7	23
Meat meal ...	11	60	6	—
Soya bean meal ...	11	44	1.5	32

The problem confronting the purchaser of feeding stuffs, who is concerned with the business of getting best value for money, is one which is much more difficult to solve than is the case with artificial fertilisers. There are at least four aspects of the problem to be considered :

- (1) The quality of the different foods offered for sale. This can be determined by reference to the particulars of composition which a seller must give a purchaser in accordance with the Fertilisers and Feeding Stuffs Act.
- (2) The physical condition of the foods, and if fresh or stale.
- (3) The suitability of the foods for the purpose in view.
- (4) The comparative values of the foods at the prices quoted.

The chief concern of this section of the Report is comparative values and, therefore, that aspect of the problem will be considered specifically.

The proteins play a part in the nutrition of the animal which cannot be taken by either carbohydrates or oils. In addition to this, the proteins, carbohydrates and oils have very different values for the production of energy or fat. It therefore follows that the simple procedure of totalling the percentages of these three ingredients and dividing this total into the price per ton in order to obtain a value for a unit of the food-stuff is quite unsound. Various methods have been used to compare the values of different feeding stuffs, but none is completely satisfactory. For practical purposes the least cumbersome is the

method whereby the food-stuffs are placed in groups of similar composition, and the values of the members of each group are then compared by consideration of (a) their protein equivalents, and (b) their starch equivalents. The starch equivalent is the number of pounds of starch which would be required to produce the same amount of "fat" in an animal as 100 pounds of the food-stuff in question. It is essentially a measure of the fat-producing value of the food-stuff. The protein equivalent is the number of pounds of digestible true protein, plus half the number of pounds of non-protein nitrogenous substances such as amides, present in 100 pounds of the foodstuff. This is a measure of the value of the food-stuff to the animal as a source of protein.

By this method all foods can be reduced to comparable standards based on (1) the protein equivalent, and (2) the starch equivalent.

The next stage in comparing values is to determine the cost of a unit of protein equivalent and of starch equivalent in the different foods which are being compared, and to enable the reader to do this the protein and starch equivalent figures for the different foods are given on the table on page 120, and also the cost per unit of protein equivalent and of starch equivalent in each case. These costs have been determined by dividing the protein equivalent figure and the starch equivalent figure, respectively, into the current price per ton, and the lower the quotient figures thus obtained the cheaper is the particular food as a source of protein or of starch equivalent as the case may be.

However, it would be quite misleading to compare the cost of a unit of protein equivalent in a protein food (which is purchased principally for its protein) with the cost of a similar unit in a starchy food. In other words, foods such as maize meal and pollard cannot be compared on the basis of cost of protein equivalent with foods such as decorticated cotton cake and meat meal.

The best course to adopt is to consider for what purpose the particular food is required, decide what foods are suitable for that purpose, examine the samples of these different foods which are offered and, if all appear to be satisfactory, apply the unit value system of determining which one provides protein equivalent or starch equivalent at the cheapest rate. A few examples may be helpful in explaining the procedure.

- (1) Suppose it is intended to purchase a protein food for the purpose of balancing a ration for dairy cows. The protein foods suitable for dairy cows are decorticated cotton cake, decorticated earthnut cake and soya bean meal. From the table on page 120 it is seen that at the current average prices of these foods the cost of the unit of protein equivalent in each is as follows :—

Decorticated cotton cake	...	...	5/10d.
Decorticated earthnut cake	...	...	4/7d.
Soya bean meal	...	...	5/7d.

Accordingly decorticated earthnut cake is the cheapest source of protein.

- (2) A protein food is required as a milk substitute to balance the ration for fattening pigs. The foods suitable for this purpose are soya bean meal, meat meal and meat and bone meal. Referring again to the table, it is seen that at the current average prices of these foods the cost of the unit of protein equivalent in each is as follows:—

Soya bean meal	...	...	5/7d.
Meat meal (60% protein)	...	...	5/7d.
Meat and bone meal (40% protein)	...	...	6/0d.

Therefore meat meal (60% protein) and Soya bean meal are cheaper sources of protein than meat and bone meal (40% protein) amongst the purchased foods suitable for pigs. This example shows also how the price per ton may mislead a purchaser into thinking he is being economical when he buys at the cheapest price. The 60% meat meal costs 4/8d. per cwt. more than the 40% meat and bone meal, and yet it is a cheaper source of protein than the latter. Besides, a lesser proportion in the meal mixture will suffice, and having usually a lower content of oil than the 40% grade, it is likely to prove more satisfactory than that grade both from the thriving point of view and its effect on the quality of the bacon.

- (3) Whether is it more economical to feed white pollard than brown pollard or white bran than red bran, even though the prices per ton of the white grades are higher than those of the brown or red grades? The figures in the table show that the cost of both the unit of protein equivalent and of starch equivalent is less for the brown pollard than the white, and less for the red than the white bran. It follows, therefore, that at current prices the coloured grades of pollard and bran are cheaper than the white grades. It should be remembered in this connection, however, that the comparison of costs in these cases has been made on the assumption that the composition of the coloured grades is the same as that of the white grades. A pollard containing say, 8 per cent. fibre, even if of a white colour, would have a far lower feeding value than one containing only 4 per cent. of fibre. Colour is not a guide as to the feeding value of pollard or bran.

PRICES OF FERTILISERS AT SPECIFIED CENTRES.

The following table shows the retail cash prices per ton of fertilisers at 1st June, 1938, at representative centres in Northern Ireland.

	Antrim	Armagh	Ballymena	Belfast	Castellwellan	Cole-raine	Emis-killen	Omagh	Strabane
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Nitrogenous Manures :									
Nitrate of Soda (15.5% N.)	8 10 0	8 10 0	8 10 0	8 0 0	8 0 0	9 10 0	8 15 0	—	8 5 0
Sulphate of Ammonia (20.6% N.)	8 0 0	8 5 0	8 0 0	7 14 0	7 15 0	8 0 0	8 0 0	8 0 0	8 5 0
Nitro Chalk (15.5% N.)	8 0 0	8 10 0	8 0 0	7 10 6	8 0 0	9 10 0	8 10 0	8 10 0	8 5 0
Phosphatic Manures :									
Superphosphate (16% S.P.A.)	3 15 0	4 0 0	3 15 0	3 16 3	3 18 9	4 0 0	4 0 0	4 2 6	4 0 0
Sensol (5% S.P.A., 15½% P.A.)	3 12 6	3 12 6	3 12 6	3 5 0	3 10 0	—	3 15 0	3 11 3	3 10 0
* Basic Slag (18% to 20% P.A.)	—	—	—	3 15 0	—	4 0 0	3 17 6	—	—
Gafsa Rock Phosphate (26% P.A.)	3 5 0	3 5 0	3 5 0	2 15 0	—	—	3 7 6	3 5 0	3 5 0
Potash Manures :									
Kainit (14% P.)	—	—	—	3 0 0	—	3 15 0	—	3 10 0	3 15 0
Potash Salts (20% P.)	4 10 0	4 10 0	4 10 0	4 0 0	4 10 0	4 10 0	5 0 0	—	4 5 0
Potash Salts (30% P.)	5 15 0	—	—	5 5 0	—	5 5 0	6 0 0	5 15 0	5 12 6
Muriate of Potash (50% P.)	8 15 0	9 0 0	8 10 0	8 10 0	9 0 0	9 0 0	9 0 0	9 0 0	9 0 0
Agricultural Salt	1 10 0	2 0 0	—	3 10 0	2 5 0	—	2 0 0	—	3 10 0

Abbreviations : N—Nitrogen.

S.P.A.—Soluble Phosphoric Acid.

P.A.—Phosphoric Acid.

P—Potash.

* If obtained under the Land Fertility Scheme, the price of British made basic slag will be 25 per cent. less than the figures quoted, since a subsidy equivalent to one-quarter is payable.

The cost of the unit of fertilising ingredient is determined by dividing the price per ton by the percentage of the ingredient contained in the manure and this method of determining values is the only sound basis on which two different manures or two grades of the same manure, supplying the same fertilising ingredient, can be compared. The price per ton is not a reliable guide as to which is the better value for money. For example, at the prices ruling at Belfast for the various manures, as shown on the table on page 125, the costs of the units of the fertilising ingredients are as follow :—

Nitrate of Soda (15.5% N.)	..	..	10/3 $\frac{1}{2}$	(Nitrogen)
Sulphate of Ammonia (20.6% N.)	..	..	7/5 $\frac{1}{2}$	"
Nitro Chalk (15.5% N.)	..	..	9/8 $\frac{1}{2}$	"
Superphosphate (16% S.P.A.)	..	..	4/9 $\frac{1}{4}$	(Phosphoric Acid)
Semsol (5% S.P.A., 15 $\frac{1}{4}$ % P.A.)	..	..	3/2	"
Basic Slag (18% to 20% P.A.)	..	..	4/2	"
Gafsa Rock Phosphate (26% P.A.)	..	..	2/1 $\frac{1}{2}$	"
Kainit (14% P.)	..	..	4/3 $\frac{1}{2}$	(Potash)
Potash Salts (20% P.)	..	..	4/-	"
Potash Salts (30% P.)	..	..	3/6	"
Muriate of Potash (50% P.)	..	..	3/4 $\frac{1}{2}$	"

It is seen that the price of 14% Kainit is £3 per ton, and of 30% Potash Salts is £5 5s. 0d. per ton, and it might be concluded that the Kainit was the better value for money. This is not so. The 30% Potash Salts contains more than twice as much Potash as the Kainit, and is, therefore, a cheaper source of potash when the price is even double that at which Kainit is offered. The cost of a unit of potash in the 30% Potash Salts is seen to be only 3/6d., whereas the cost of a unit of potash in Kainit is 4/3 $\frac{1}{2}$ d. At the prices ruling for these manures, 30% Potash Salts is, therefore, better value for money than Kainit. Similarly, it is seen that at the prices prevailing at Belfast Gafsa Rock Phosphate is the cheapest source of phosphoric acid and Sulphate of Ammonia is the cheapest source of Nitrogen.

In connection with the costs of the units of phosphoric acid at Belfast, as shown in the table above, it should be noted that in the case of Superphosphate, the cost is that of a unit of soluble phosphoric acid: whereas in the cases of Basic Slag, Semsol, and Gafsa Rock Phosphate, the figures represent the cost of a unit of insoluble phosphoric acid. It would not, therefore, be correct to compare the unit price of the phosphoric acid in Superphosphate with those of the phosphoric acid in the other three.

TRADE AND PRICES OF LIVE STOCK AT BELFAST AUCTION MARTS.

Trade in fair cattle at the saleyards during the first week of May moved on slower lines, probably due to the pending removal of the duties on Eire cattle. Exporters operated cautiously, and prices declined. In the following week trade again opened slowly for the smaller supplies, but it improved during the day. On the whole, however, there was a further reduction in price. Small supplies were again on offer in the third week. The stock was of very good quality, and with brisk bidding an improved trade was passing. The average price in this week was considerably advanced. In the last week of the month demand ruled similar with good lots firming further in price. The first week in June saw the first influx of cattle from Eire after the removal of duties. Supplies were larger, but trade was slower, and prices declined slightly. Many lots of baby beef and early maturity cattle were shown at this sale. On the whole the average price for the month of May was 9d. cheaper than in April, at 41/3d. per live cwt. The general ranges were as follow :—

Top qualities—42/- to 46/- per live cwt.

Good commercial lots—40/- to 43/- per live cwt.

Rougher types—38/- to 40/- per live cwt.

Trade in store cattle all month ruled slow, and sales were hard to effect owing to the drought. With the recovery in pasture lands, however, demand in the last fortnight of the month improved. In the first week in June, however, demand again eased and prices declined.

Limited supplies, of dairy cattle were an uninteresting trade at unchanged rates.

Increased supplies of sheep and lambs were forward at the saleyards during the month. A fair trade ruled generally, and prices firmed towards the close of the month. This year's fat lambs were the feature of the trade, and mutton also was easily disposed of. Ewes with lambs fetched remunerative prices.

PRICES OF FAT STOCK.

<i>Week ended</i>	<i>Per cwt.</i>	<i>Week ended</i>	<i>Per cwt.</i>
7th May, 1938	.. 41 0	8th May, 1937	.. 44 0
14th " "	.. 40 6	15th " "	.. 44 6
21st " "	.. 41 9	22nd " "	.. 44 9
28th " "	.. 41 9	29th " "	.. 44 3
Average for month	.. 41 3	Average for month	.. 44 3
4th June, 1938	.. 41 6	5th June, 1937	.. 45 6

PRICES OF OTHER STOCK AT THE BELFAST AUCTION MARTS.

Description.		Week ended 7-5-38	Week ended 14-5-38	Week ended 21-5-38	Week ended 28-5-38	Week ended 4-6-38
Fat Cows	Range of 1st quality " 2nd "	£15 to £19-10 £11 to £16-10	£15 to £20-15 £12 to £17	£15 to 20-17-6 £10 to £17	£15 to £23 £11 to £16	£15 to £24 £11 to £16
Store Cattle :						
Forward Stores ..	Range of 1st quality " 2nd "	£15-10 to £18-17-6 £13 to £15	£15 to £17-17-6 £13-5 to £14-15	£13-15 to £15-2-6 £12-10 to £13-10	£15-10 to £18-2-6 £14 to £15-5	£15-10 to £17-7-6 £13-5 to £5-5
Calves (under 12 months)	" 1st " 2nd "	£10-10 to £12-10 £18-17-6 to £10	£10 to £12-10 £5-15 to £9-15	£10 to £12 £5-5 to £9	£10 to £13-10 £7-5 to £7-10	£10 to £12-10 £8 to £9-15
Dairy Cattle :						
Milch Cows ..	Range of 1st quality " 2nd "	£22 to £26 £17 to £21	£23 to £27 £17 to £20	£22 to £26-10 £17 to £21	£21 to £28 £17 to £20	£22 to £26-5 £17 to £21
Springers ..	" 1st " 2nd "	£20 to £23 £17 to £19	£22 to £25 £16 to £18	£21 to £25-10 £17 to £20	£20 to £24-10 £16 to £19	£20 to £23 £16 to £19
Sheep and Lambs :						
Crossbred & White Ewes	Range of 1st quality " 2nd "	35/- to 47/6 25/- to 40/-	35/- to 51/- 25/- to 38/-	38/- to 61/- 30/- to 49/-	30/- to 45/- 25/- to 37/6	38/- to 53/6 30/- to 44/-
Blackface Ewes ..	1st 2nd "	— —	30/- to 45/- 20/- to 38/-	30/- to 42/- 23/- to 34/-	30/- to 37/6 20/- to 31/-	28/- to 42/- 18/6 to 29/-
Crossbred & White Lambs	1st 2nd "	40/- to 64/- 30/- to 45/-	38/- to 56/- 30/- to 44/-	42/- to 56/- 34/- to 40/-	39/- to 47/- 33/- to 39/-	38/- to 47/- 33/- to 37/6
Blackface Lambs	1st 2nd "	— —	20/- to 25/6 15/- to 19/-	— —	— —	— —
Rams ..	1st 2nd "	36/- to 54/- 30/- to 44/-	35/- to 50/- 30/- to 43/-	50/- to 63/- 45/- to 54/-	40/- to 55/- 30/- to 44/-	35/- to 55/- 30/- to 44/-
Spring Lambs ..	1st 2nd "	42/- to 54/- 35/- to 40/-	45/- to 67/- 38/- to 44/-	44/- to 50/- 36/- to 42/-	38/- to 49/- 30/- to 41/-	38/- to 49/- 25/- to 36/-

PRICES OF LIVE STOCK.

Average prices of Live Stock at Fairs during the month of May, 1938.

Date	Fair	Calves (under 9 months)	Store Cattle	Fat Cattle (18 months and over	Springers		Milch Cows	Fat Lambs (under 12 months old)	Fat Sheep (over 2 years old)	Young Pigs
					Cows	Heifers				
		Per head £ s.	Per cwt. Live weight. 40/- to 43/- 46/- to 47/6 41/6 to 45/-	Per cwt. Live wgt. 39/6 40/- 41/-	Per head £ s.	Per head £ s.	Per head £ s.	Per head £ s.	Per head £ s.	Per head £ s.
3	Omagh	7 10	42/6 to 50/-	39/-	17 0	17 10	16 0	+2 2	+2 0	1 12/6
4	Londonderry	—	42/- to 45/-	40/-	—	—	—	—	—	1 12/6
4	Rathfriland	6 16	36/- to 42/-	41/6	18 0	17 10	17 0	+1 16/3	*1 18/9 †1 11/3	—
6	Moy	—	40/- to 42/-	—	15 5	13 17/6	15 12/6	—	—	—
9	Irvinestown	8 1/5	41/- to 46/-	39/-	16 10	18 0	16 0	+1 17/6	—	1 15
10	Enniskillen	6 12/6	41/6 to 44/-	41/6	14 0	14 10	13 0	—	—	1 17
11	Crossgar	—	42/6 to 44/-	—	18 10	17 10	15 0	—	—	2 0
11	Kilrea	6 5	41/6 to 44/-	39/-	20 0	20 0	14 0	—	—	1 12
12	Strabane	—	41/6 to 44/6	39/-	15 10	13 10	—	—	—	—
13	Ballygawley	—	42/- to 48/6	39/6	18 10	—	18 0	+1 15	+1 17/6	1 18/6
16	Camrough	7 5	38/- to 47/-	39/-	16 0	17 0	14 0	—	—	—
17	Claudy	—	33/- to 42/-	42/6	17 0	16 10	16 0	—	—	1 7/6
18	Lisnaskea	6 0	37/- to 43/-	—	18 0	16 10	14 12/6	—	—	1 13/6
19	Ballymoney	6 16/3	40/- to 42/-	—	17 10	16 10	16 0	—	—	1 12/6
19	Ballynahinch	—	36/- to 40/-	39/-	16 10	16 0	18 0	—	—	1 18
20	Portadown	6 2	30/- to 43/6	—	23 0	21 10	21 0	—	—	1 15
21	Ballymena	7 1	42/6 to 45/-	38/-	17 10	15 10	15 0	+1 12	+1 11	1 18
21	Moneymore	7 5/8	41/- to 45/-	40/-	16 10	16 10	16 0	+2 2/6	+2 0	—
23	Fintona	7 10/5	29/- to 44/-	39/6	19 10	17 0	—	—	—	1 15
26	Antrim	—	—	—	14 10	—	14 0	—	+2 0	1 15
27	Killylea	—	—	—	—	—	—	—	—	—

* Long wool.

† Downs and Crossbred.

‡ Mountain.

SHIPMENTS OF LIVE STOCK.

Statement showing the Shipments of Live Stock from Northern Ireland ports during the following periods :—
Months of May, 1938, April, 1938, May, 1937; Five months ended 31st May, 1938, and 31st May, 1937.

PORTS OF :—	CATTLE.					SHEEP.				PIGS.			Horses	
	Fat	Stores	Milch Cows	Springers	Calves	Total	Fat	Stores	Lambs	Total	Fat	Stores		Total
Belfast ..	3,724	2,610	1,471	133	—	7,938	314	—	3,064	3,378	4,063	—	4,063	366
Larne ..	25	421	1	1	102	550	—	—	—	—	1,142	8	1,150	31
Londonderry ..	325	3,428	48	27	197	4,025	104	—	922	1,026	366	—	366	2
Newry ..	—	—	—	—	—	—	23	—	201	224	—	—	—	—
Total, May, 1938 ..	4,074	6,459	1,520	161	299	12,513	441	—	4,187	4,628	5,571	8	5,579	399
Total, April, 1938 ..	4,740	14,152	817	124	651	20,484	1,233	—	215	1,448	6,533	191	6,724	339
Total, May, 1937 ..	3,502	22,673	1,231	226	756	28,388	411	—	7,234	7,645	15,396	334	15,730	580
Total, Five Months ended 31st May, 1938	25,372	66,247	5,331	460	1,807	99,217	14,153	—	4,414	18,567	39,252	736	39,988	1,338
Total, Five Months ended 31st May, 1937 ..	32,112	91,640	5,419	583	2,729	132,483	17,515	—	7,892	25,407	60,125	1,406	61,531	1,384

IMPORTS AND EXPORTS

Table showing the Imports and Exports through Northern Ireland ports of certain Agricultural Products during the month ended 30th April, 1938, and the four months ended 30th April, 1938, with comparative figures for the corresponding periods in 1937. This information also includes trade with Eire across the land boundary.

(These figures are supplied through the courtesy of the Ministry of Commerce and are subject to revision).

COMMODITY.	IMPORTS.				EXPORTS.			
	Month ended 30th April.		Four months ended 30th April		Month ended 30th April		Four months ended 30th April	
	1938	1937	1938	1937	1938	1937	1938	1937
Bacon cwt.	4,028	3,120	13,187	9,702	31,740	28,875	116,153	130,115
Hams cwt.	1,038	1,193	4,919	5,512	9,030	10,356	41,668	41,054
Pork cwt.	2	588	646	3,008	2,587	3,394	9,588	12,329
Butter cwt.	14,572	21,621	62,977	67,659	165	189	904	680
Eggs gt. hds.	165,147	172,068	417,362	327,085	468,415	393,878	1,061,936	903,796
Oat Products (inc. Oatmeal) cwt.	1,319	1,424	7,102	8,112	4,529	7,177	22,610	37,246
Potatoes ton.	190	1,736	946	4,068	*21,809	*29,670	*96,378	*106,892
Poultry cwt.	164	277	1,082	1,574	7,896	9,220	79,866	84,447
Grass Seeds cwt.	3,779	948	10,085	5,177	53,836	40,194	188,230	187,432

* These figures represent the quantities of potatoes inspected for shipment by the Ministry of Agriculture. There were no imports of oats direct from abroad during April, or in the corresponding month last year.

Table showing the numbers of Live Stock (1) exposed for sale, and (2) sold at 20 fairs in Northern Ireland, during the months of May, 1937, and April and May, 1938:—

Description of Live Stock.	May, 1937.		April, 1938.		May, 1938.	
	Number exposed for sale.	Number sold.	Number exposed for sale.	Number sold.	Number exposed for sale.	Number sold.
Store Cattle ..	6,718	5,724	7,579	5,709	5,354	2,989
Fat Cattle ..	1,190	1,062	1,482	1,373	1,086	874
Dairy Cattle ..	1,088	900	1,249	989	1,166	833
Sheep ..	400	326	514	398	705	444
Lambs ..	161	142	106	86	244	168
Young Pigs ..	3,177	2,566	3,332	2,757	3,530	2,686

ACCOUNT OF TRADE AT FAIRS.

Only small supplies of store cattle were offered at fairs during May. The quality and condition of the animals remained fairly good despite the recent drought. Shippers and dealers attended the fairs in moderate numbers, but business on the whole was slow and many lots of cattle were left unsold. Sellers were unwilling to accept lower rates than those that have prevailed this year up to the present, and buyers were unwilling to pay such high rates. Sales were also affected to a certain degree by a general uneasiness over the possible effect of the Anglo-Eire pact. Throughout the month trade ruled slow and prices tended lower. Good animals in condition generally fetched around late rates, but for other sorts values depreciated. Good strong six-quarter-olds in good bloom were perhaps in best demand, and as usual nice polly bullocks and heifers for breeding were readily sold. Trade in fat cattle was maintained at a steady level. Supplies were about medium, and with the animals in good condition buyers were fairly active. Demand was keenest for well finished young medium weights of from 8 to 9 cwts., and prices were similar to those paid a month ago. Supplies of dairy cattle were about average for the time of year. The majority of the better quality animals were easily disposed of at firm rates; poorer types, however, were a slow trade at lower price levels. Choice cows and heifers for the English trade were the feature in this section of the livestock trade, and good second-year calvers were also in keen request. Old inferior animals and badly uddered sorts were ignored. Sheep were forward in small to medium supply. Trade was fairly keen, and the best sorts fetched late rates. This year's fat lambs were in very keen request at similar rates to those paid a month ago, and young breeding ewes with lambs at foot were also in demand. A fairly good demand ruled for young mutton also, but at prices that declined slightly.

Supplies of young pigs were again slightly larger than a month ago. A fairly keen enquiry was maintained, but prices continued to ease owing to the scarcity of potatoes for cheap feeding. Trade for store pigs also remained steady at prices that continued to ease, but not quite so much as in the case of the younger lots. Small numbers of brood sows were offered at a few centres, and recent remunerative prices were usually repeated. Trade remained fairly steady for the variable qualities on offer, the best sorts of Large White Yorks being in favour. The general price ranged for sows was from £6 10s. to £12 according to quality.

13th June, 1938.

This report is issued free on application to the Secretary,
Ministry of Agriculture, Stormont, Belfast.

MINISTRY OF AGRICULTURE. **List of Leaflets and other Publications.**

LEAFLETS.

- | | |
|---|--|
| <p>No. 1. Flax Seed
 " 2. Improvement of Farm Poultry.
 " 3. Feeding for Egg Production.
 " 4. Marketing of Eggs.
 " 5. The Dishorning of Calves.
 " 6. The Packing of Apples in Standard Boxes
 " 7. Potato Trials.
 " 8. Seed Testing for Farmers.
 " 9. The Renovation of Orchards.
 " 10. Fruit Tree Pests—Capsid Bugs.
 " 11. Fruit Tree Pests—Aphides and Apple Sucker.
 " 12. Fruit Tree Pests—Caterpillars.
 " 13. Contagious Abortion in Cattle.
 " 14. Cheese-making on the Farm.
 " 15. Suitable Varieties of Fruit.
 " 16. The Feeding of Dairy Cows.
 " 17. Home Bottling of Fruits and Vegetables.
 " 18. Marketing of Dead Poultry.
 " 19. How to Feed Linseed.
 " 20. The Hatching and Rearing of Chickens.
 " 21. The Uses and Advantages of Portable Poultry Houses.
 " 22. Leather-jacket Grubs.
 " 23. The Handling and Care of Wool.
 " 24. Fluke in Sheep.
 " 25. The Rearing and Management of Young Horses.
 " 26. Ordnance Survey Maps for Farmers.
 " 27. How to Keep Eggs Clean.
 " 28. The Construction of a Laying House for Poultry.
 " 29. The Selection and Breeding of Laying Hens.
 " 31. Coccidiosis in Poultry.
 " 32. Roup of Poultry (Fowl Pox).
 " 33. Spraying Calendar for Apple Orchards.
 " 34. The Pruning of Apple Trees.
 " 35. The Fattening of Pigs.
 " 36. Advantages of Milk Recording.
 " 37. The Raising and Fattening of Turkeys.
 " 38. The Destruction of Charlock.
 " 39. The Production of Clean Milk.
 " 40. The Laying Down and Management of Temporary Pastures.
 " 41. Blackleg, Blackquarter or Quarterill.
 " 42. The Purchase of Balanced Rations for Dairy Cows.
 " 43. Tuberculosis in Poultry.</p> | <p>No. 44. Results of Crop Experiments.
 " 45. The Breeding and Rearing of Pigs.
 " 46. Hints for Winter Egg Production.
 " 47. The Care and Management of Sheep.
 " 49. American Gooseberry Mildew.
 " 50. Potato Blight.
 " 51. Butter-making on the Farm.
 " 52. Gapes in Chickens.
 " 54. The Breeding and Rearing of Calves.
 " 55. Destruction of Ragwort or Bindweed.
 " 56. Identification of Egg Supplies.
 " 57. How to have Eggs of First Quality.
 " 58. How the Fertilisers and Feeding Stuffs Act benefits the Farmer.
 " 59. Bacillary White Diarrhoea (Pullorum Disease).
 " 60. Advantages of Winter Agricultural Classes.
 " 61. The Care and Management of Breeding Bulls.
 " 62. The Production of Timber on the Farm.
 " 63. Sheep—Castration, Docking, Foot-Rot and Care of Feet.
 " 64. The Destruction of Warble Fly Maggots in Cattle.
 " 65. The Packing of Apples in Barrels.
 " 66. Seed Testing Facilities for Traders.
 " 67. The Cultivation of Vegetables.
 " 68. The Cultivation of Strawberries.
 " 69. The Construction of Piggeries.
 " 70. Ringworm.
 " 71. The Cultivation of Raspberries.
 " 72. Tree Planting for Shelter and Ornament.
 " 73. The Propagation and Maintenance of Healthy Stocks of Potatoes.
 " 74. New Pure Strains of Flax.
 " 75. Pig Production and the Pigs Marketing Scheme.
 " 76. Acarine (Isle of Wight) Disease of Bees.
 " 77. Licensing of Milk Producers and Distributors.
 " 78. Graded Milk.
 " 79. The Picking and Storing of Apples.
 " 80. Hoose or Husk in Farm Stock.
 " 81. The Construction of Cow Houses.
 " 82. White Scour in Calves.
 " 83. The Care, Management and Feeding of the Poultry Breeding Stock.
 " 84. Lime and Liming.</p> |
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Any of the above leaflets may be obtained free of charge and post free on application to the Secretary, Ministry of Agriculture, Stormont, Belfast.

CIRCULARS.

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|--|
| <p>No. 1. Phosphatic Fertilisers.
 " 5. Why Pay a Tax on the Horns of Cattle?
 " 8. Basic Slag.
 " 9. Smut in Oats.
 " 10. Purchase of Fertilisers and Feeding Stuffs.
 " 11. Fertilisers and Feeding Stuffs Act—General Summary.
 " 12. The Treatment of Liver Fluke.
 " 13. The ox-Warble Fly.
 " 306. Fertilisers and Feeding Stuffs Act, 1926—Revision of Regulations.</p> |
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MISCELLANEOUS PUBLICATIONS.

- Store Cattle.
 Reports on Egg-Laying Tests.
 Crop Insurance.
 List of Growers of Certified Crops of Immune Varieties of Potatoes.
 List of Growers of Certified Crops of Non-Immune Varieties of Potatoes.
 The Ministry's Monthly Report.
 Register of Premium Stallions.
 Guide to the Live Stock Breeding Act (Northern Ireland), 1922.
 Guide to the Marketing of Fruit Act (Northern Ireland), 1932.

Any of the above publications may be obtained free of charge and post free on application to the Secretary, Ministry of Agriculture, Stormont, Belfast.

The following publications can be obtained from His Majesty's Stationery Office, 80 Chichester Street, Belfast, at the prices stated:—

- (1) The Annual Report of the Ministry of Agriculture for Northern Ireland. Price 2/6 net.
- (2) Annual Report upon the Agricultural Statistics of Northern Ireland. Price 2/- net.
- (3) The Journal of the Ministry of Agriculture for Northern Ireland. Price 2/6 net.
- (4) The Agricultural Output of Northern Ireland, 1925. Price 2/6 net.

